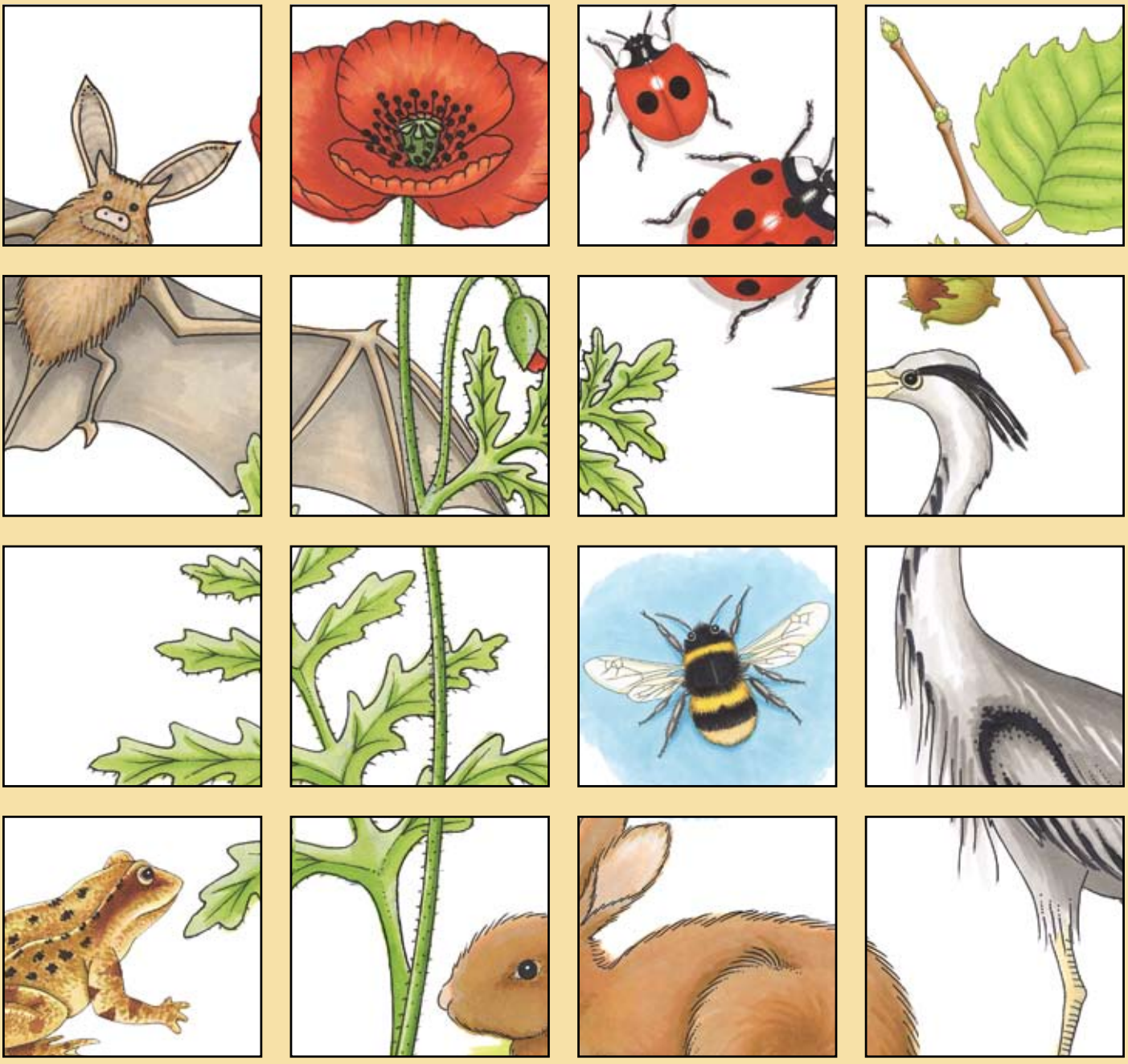
Wild Things at School

A book for Primary School Teachers



by

Éanna Ní Lamhna

Illustrations *by* Christine Warner

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An Chomhairle Oidhreachta
The Heritage Council

Dedication

I dedicate this book to my father — Peadar Ó Lamhna — who taught me in Fifth, Sixth and Seventh class in St Nicholas' Primary School in Stabannon in Co. Louth.

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Foreword

Counties Laois, Meath and Monaghan have come together to develop this book for Primary School teachers called *Wild Things at School.*

"If only the kids learnt even three plants or animals each year . . ." This statement from the naturalist, author and broadcaster Éanna Ní Lamhna was picked up by us as the basis for this publication. We are delighted that Éanna agreed to write the book. With her usual style, flair and knack of picking out snippets of information, she has written fabulous thought-provoking accounts of all the plants, animals and creepy-crawlies identified for study in the book.

These accounts are well matched by beautiful illustrations from Christine Warner.

Connie Scanlon and James Fraher of Bogfire have brought it all together with their design.

The County Heritage Plans for each of our counties have actions relating to education and for building awareness of our heritage, including wildlife. The Heritage Council has co-funded this book with Laois, Meath and Monaghan County Councils.

We hope that this book will provide an opportunity for every child in Primary School to participate in a nature studies programme which helps them identify common plants, trees, animals, birds and creepy-crawlies. This will make it easier for them to take up ecology modules in the science programme in Secondary School, and help them to know their own local environment.

Our hope is that *Wild Things at School* will encourage children to develop a respect and love of nature that will stay with them all their lives.

We hope that you find it useful.

Catherine Casey, Heritage Officer, Laois County Council
Shirley Clerkin, Heritage Officer, Monaghan County Council
Loreto Guinan, Heritage Officer, Meath County Council

Acknowledgements

Full credit for this book must go to Catherine Casey of Laois County Council, who put it up to me to write a book which would be used to teach the basic plant and animal species to school children, instead of lamenting the fact that they did not know more than daisies and dandelions in Sixth Class. Thanks, too, to Shirley Clerkin of Monaghan County Council and Loreto Guinan of Meath County Council for enthusiastically supporting this project.

I must also thank the Primary School teachers of Ireland who have invited me into their classrooms over the last 35 years to talk to their pupils under such varied schemes as Heritage in School, the Ringo Project, or judging various school garden projects, or indeed as an inspector for trainee primary teachers. The interaction with their pupils has inspired me during the writing of the book.

I particularly want to thank Christine Warner, whose accurate and beautiful colour illustrations and line drawings have brought life so vividly to the words on each page.

I want to thank Connie Scanlon and James Fraher at Bogfire who have designed and laid out the pages of the book and made such a harmonious whole of the project.

My thanks also go to the sponsors — Laois, Meath and Monaghan County Councils and to the Heritage Council.

Finally, I would like to thank my husband, John Harding, who bore stoically the time filched from days off and weekends together, which I needed to complete the writing and proofreading. His reward will be great!

— Éanna Ní Lamhna, July 2009

Introduction

If you ask pupils in Junior Infants what wild flowers they know, they will tell you “daisies, dandelions and buttercups”. If you go into Sixth Class and ask the same question you will get the same answer. They know three species in infants and they know the same three eight years later. Yet, with no difficulty, they could learn two wild flowers every year, and a tree, and a mammal, and a bird and indeed a creepy-crawly. So, with relatively little effort, each pupil would leave Primary School knowing, recognising and realising the importance of 48 native Irish species. A co-ordinated effort on the part of their teachers would ensure this.

But how to do it? Which species to teach each year, where to find them, and what pupil exercises to carry out? How does the school ensure that each year the wildlife knowledge of each Class is built on and improved? How do the teachers find out themselves all about the chosen species? What practical work can they carry out with the class to ensure that the teaching is carried out to conform with the Living Things Strand of the Science Curriculum?

This book is the answer to such questions. The 48 species that every child should know are outlined in the following pages. Many of them occur in the school grounds (so the pupils can have firsthand experience of them); others are found in the hedgerows which may be round the school field or nearby. None are rare or endangered. The objective is that if pupils and teachers know all about common species, then they will be in a position to appreciate the value and importance of species that are less common and that require different habitats in which to live.

The book is divided into eight sections — one for each year of Primary School from Junior Infants to Sixth Class. The six species to be taught each year are described. The descriptions are all written for the teachers to absorb and then to teach to the class at whatever standard the class can learn. The “To do” section is geared however at the standard of the class being taught. The ideas are given and again the teacher uses these ideas to carry out the practical work in a way that suits their particular class.

When teachers have Planning Days to work out what the teaching schemes for the year will be, this book will be invaluable. Each year the six species listed for that class are taught. The teachers know what their class has been taught in earlier years and can revise and build on this.

So I look forward to the day in eight years time when I ask a Sixth Class what flowers they know and they can rattle off 16 species of wild flowers, complete with details of what they look like, where they grow and what folklore is attached to them.

Bainigí taithneamh as.

In the end we will conserve only what we love;

we will love only what we understand;

and we will understand only what we are taught.

—Baba Dioum, 1968

Taken from a speech made in New Delhi by the Senegalese Environmentalist Baba Dioum to the International Union for the Conservation of Nature (IUCN).

Junior Infants

Daisy

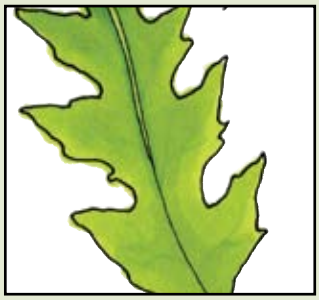
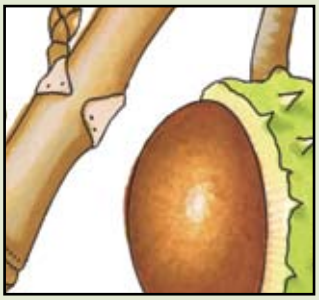
Dandelion

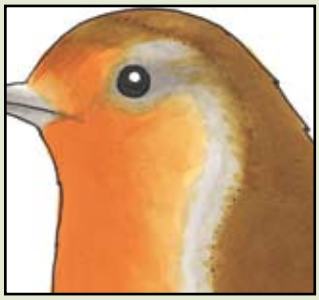
Horse Chestnut

Hedgehog

Robin

Ladybird




Daisy

Latin name – *Bellis perennis*
Irish name – *Nóinín*

Daisy

Daisies are probably the most familiar wild flowers in Ireland. Every lawn or playing field is full of them from March onwards. The English name daisy comes from Day's Eye. This reflects the appearance of the daisy with its yellow centre — the eye, and the ring of white petals — the eyelash. The daisy flower closes at night and opens when daylight comes as if it were waking and sleeping — like real people do.

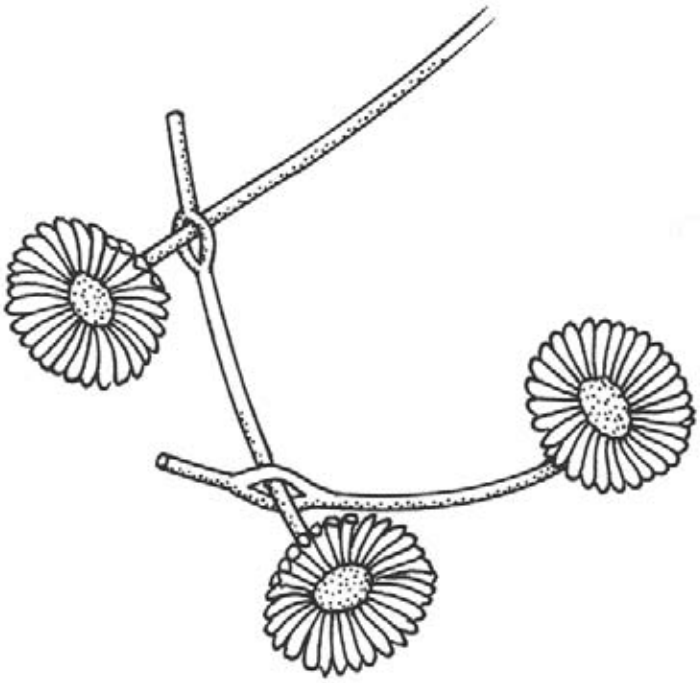
It is considered to be a sign that spring has arrived when daisies appear in numbers. You must be careful not to step on the first one you see for the tradition is that if you do you will be "pushing up daisies" yourself before the end of the year.

The daisy is a perennial flower — it comes up every year without having to set seed. It has a rosette of leaves around the base. Each leaf has an oval shape. One flower grows on each stem and sometimes the white ring of petals has a tinge of pink on the outside. Because the leaves form a rosette the plant is not destroyed by mowing the grass and in fact it thrives in areas where the grass is mowed regularly.

It is a universal custom for children to make daisy chains by making a slit in the stem of one daisy and inserting another daisy stem first into the slit. This continues until the chain is long enough to be worn.

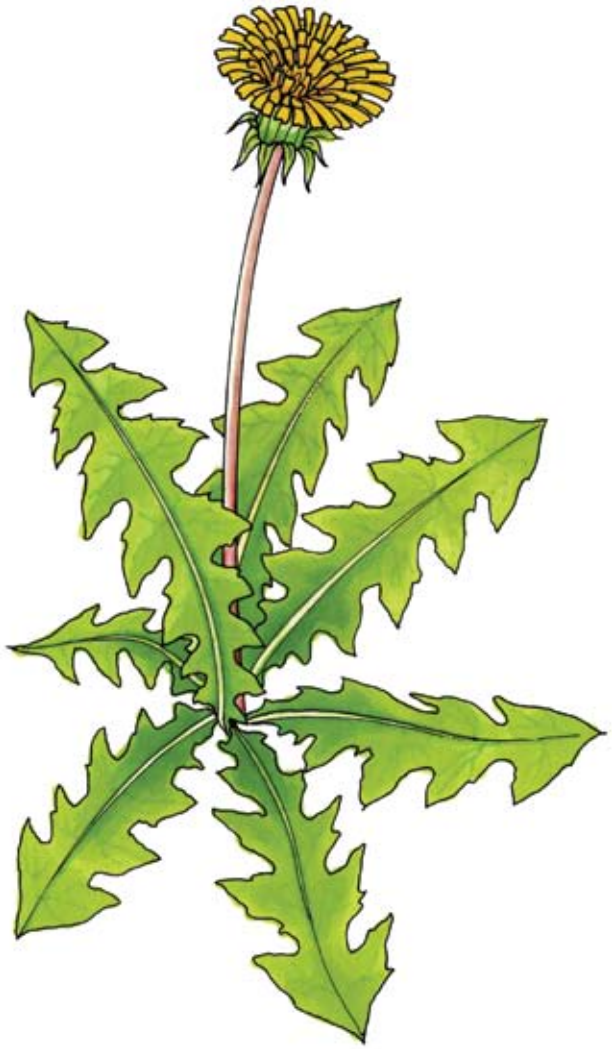
To do with Junior Infants

- Get each pupil to gather one daisy and see if the petals are tinged with pink.
- Put a circle such as a hoop on the grass and get the children to count how many daisies are there.
- Get them to make daisy chains.



Dandelion

Latin name – *Taraxacum officinale*
Irish name – *Caisearbhán*



Dandelion

Dandelions have many common names — pissybeds, wet the bed, clocks and jimmyjoes. It is often thought by children that if you pick the flowers then you will wet the bed later on. This is of course not true. What is true is that the leaves of the dandelion act as a diuretic if eaten. They were used in ancient times as a cure for dropsy — an ailment that caused a limb to swell up. Eating dandelion leaves caused the liquid to move to the bladder and no doubt could cause a bed-wetting incident if the person had fallen into a deep slumber.

The English name dandelion comes from the French — dent de lion — and refers to the toothed leaves which must have put someone in mind of lions' teeth. The Irish name is caisearbhán, from — gas searbh — the bitter stem. The white stem juice is alkaline and was used in ancient times as a cure for warts.

The leaves grow in a rosette from which come the bright yellow flowers on a single stalk. These quickly turn into white seed heads known as clocks and the seeds, each with its parachute of white hairs, are easily blown away in the wind to settle and grow again quickly. A favourite game among children is to collect one and to tell the time by counting how many puffs of breath it takes to blow away all the seeds.

Dandelions have long tap roots which were dug up and dried and roasted in times of poverty to make a type of "coffee" drink. Its flowers do make a good wine if one has the patience to use just the yellow petals and its clean, very young leaves can be eaten in salads in spring.

Dandelions grow in fields, lawns and along roadsides. They are in flower all summer long. They are well able to withstand mowing — indeed, the more a lawn is mowed the more dandelions grow as other competing plants are removed.

To do with Junior Infants

- Get each child to find and gather one dandelion each.
- Get them to collect one with a white seed head and blow away the seeds counting the puffs – i.e. playing clocks.
- Count the number of dandelions inside a hoop placed on the lawn. Are there more daisies than dandelions?

Horse Chestnut

Latin name – *Aesculus hippocastanum*
Irish name – *Crann Cnó Capaill*

Horse Chestnut trees are very common in Ireland and are easily identified at any time of year. They are not native to Ireland, they originate in the Balkan regions, but were introduced in the 1600s — probably as great dignified trees to enhance estates formed during the plantations of that century.

Probably as a result of originating in such a warm part of Europe, they are the very first large tree species to get their leaves in spring. The large brown sticky buds open in March. The leaves are compound — which means that seven leaflets radiate out from one stalk that joins to the twig. By May the tree is covered in large white clumps of flowers that remind people of candles and are beloved of bees, who make very fine honey from the nectar. This work by the bees also results in the flowers being pollinated and the formation of fruits and seeds.

By mid-summer it is easy to see the green prickly fruits which contain the seeds or conkers. These ripen quickly and by late September begin to fall and burst open revealing the brown shiny chestnuts inside. They are the first trees to get leaves in spring and indeed the first to lose them as well. The leaves look decidedly withered and yellow in September and are easily blown away by the winds of late September and early October. The trees are then set to overwinter in this dormant state and we have to wait until spring for the sap to rise and the cycle to begin all over again.

But why are they called “horse” chestnuts? It could be because the word “horse” in biological terms means big and coarse and the nuts are bigger and coarser than those of the edible sweet chestnut. Or it could be because the Turks used to feed conkers to horses to cure them of coughs. But it probably is because of the little horseshoe marks (complete with nails) on each twig, as if a little horse had walked there leaving its footprints behind.

In herb medicine they contain cures for varicose veins.

To do with Junior Infants

- Examine twigs in spring to see sticky buds and horseshoe marks.
- Note when the buds open and encourage the pupils to keep a record each year as they move up through school.
- Collect conkers in autumn and thread them on strings to play at “conkers” — hitting them one off another in turn to see whose breaks first — a traditional game.
- Collect some — keep in a paper bag over the winter and plant in pots in early spring. They are really easy to grow and can be planted out in their second year.

Hedgehog

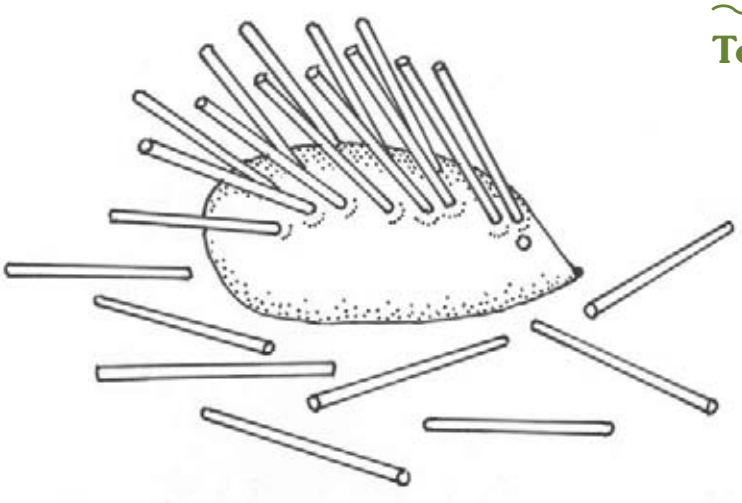
Latin name – *Erinaceus europaeus*
Irish name – *An Gráinneog*

Hedgehog

Hedgehogs were introduced to Ireland by the Danes as a source of food. The country suited them and they quickly became established in hedges, gardens and woodlands. They are carnivorous animals and feed on snails, slugs, beetles, caterpillars, earwigs and earthworms. They visit gardens at night and are often tempted by the contents of the dog's bowl — much to the annoyance of the resident dog. When they feel under threat they roll into a prickly ball which deters all enemies except badgers who are able to attack and eat them.

Hedgehogs breed in May and the young, three or four, are born in June, which gives them a good long summer to grow and put on that vital pound of fat, which they need for hibernation. They go into hibernation at the end of October and stay asleep until April. They do this — not because it is too cold — but because there is no food for them, as snails and other minibeasts are not around in winter and as carnivores hedgehogs must eat meat. Lately however, it seems that hedgehogs are producing a second litter in September. Apparently, climate change is making our summer nights warmer than they used to be and hedgehogs are coming into season for a second time in midsummer. These poor little late babies are on a hiding to nothing as they can't put on enough fat in time to survive hibernation.

Surviving hibernation is no small feat in itself. If we were to go to sleep in October and stay asleep continuously until April, we'd wake up dead! We'd have died of hunger and thirst. So how do the hedgehogs manage? They must have a body weight of over 450 grams before going into hibernation or they won't have enough fat resources to survive. They also must slow down their metabolic rate. Normally in summer months, hedgehogs maintain a temperature of 34°C and a heartbeat of 190 beats per minute. In order for the pound of fat reserves to last for six months the hedgehog in hibernation drops its heartbeat to 20 a minute and its body temperature can go as low as 5°C.



To do with Junior Infants

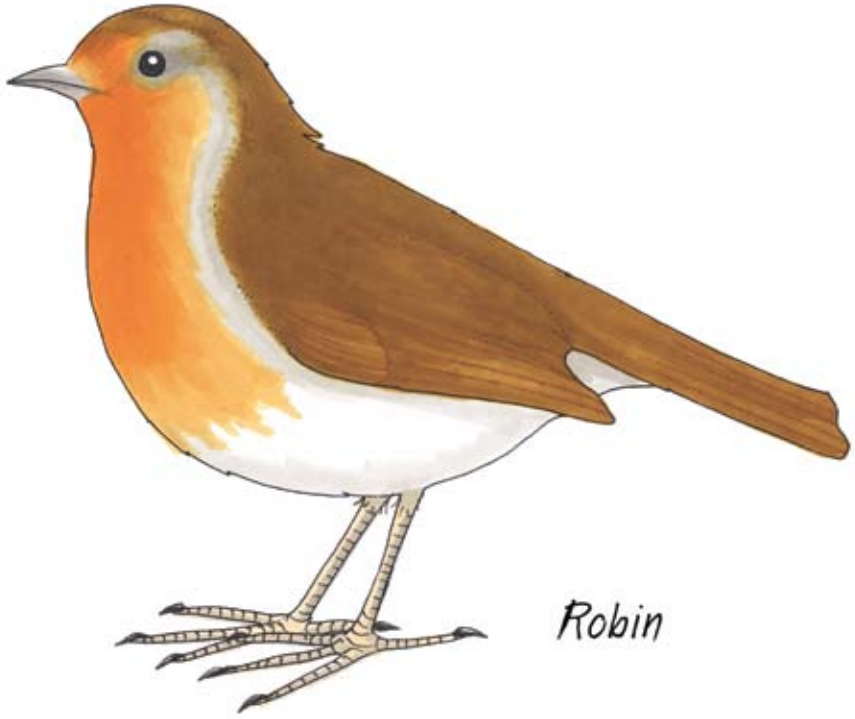
- Learn the song "Harry the Hedgehog:"

  I'm Harry the hedgehog as everybody knows
  And I can feel the frosty wind nip my little nose
  So I think it would be best if I found a little nest
  Where I could lie and rest until the springtime.

- Make a model of a hedgehog using plasticine for the body and lollipop sticks for the spikes.

Robin

Latin name – *Erithacus rubecula*
Irish name – *An Spideog*



Let's start off the story of the robin in winter. This is the time when the robin visits the bird table. So, during the winter months, it is very important to put out food such as nuts and seeds, rasher rinds, bits of bread, cakes of fat even, if you are up to it, and most especially water. Come spring, however, with its lengthening days, robins leave the bird table and start to hold territories and attract a mate. They do this by singing. Only the males sing and other males know to stay away as robins are very territorial and can kill other males if they wander into their territory. A female however is tolerated and after a while they set up home together. The male collects nest material from which the female constructs a nest and fashions it to her body shape. Robins can have a clutch of up to six eggs which hatch out after two weeks and are fed by both parents with the creepy-crawly content of the garden — spiders, woodlice, small caterpillars and the like. In a good year the performance can be repeated twice and even three times over, with the same missus of course.

Baby robins are all brown — they do not develop red feathers until they are fully grown. Once they leave the nest on their first flight, two weeks after they hatch out, they never return to it. They are fed by their parents in the garden for a few days until they learn to fend for themselves. So by the end of the summer, your robins could have had at least ten babies, which together with the original parents come to twelve — a six-fold increase in the robin population. But things don't get to this stage. Most robins don't survive babyhood. They are almost all caught by predators in the inexperienced early days of flying. They are food for the next level in the food chain. It has to be or they would all die of starvation.

By autumn the pairs have broken up and robins no longer hold territory. They will spend the winter in the garden surviving on whatever food they can find. Robins are omnivores, which means that they can digest food of both animal and plant origin. So they can survive the winter in Ireland and do not need to migrate to Africa like the swallow who can only feed on insects. But we can help them by putting out food.

To do with Junior infants

- Make a Christmas card with a robin on it.

Ladybird

Latin name – *Coccinella 7-punctata*
Irish name – *Bóinn Dé*

Ladybirds are very common and recognisable insects. They belong to the beetle group and have the smooth curved shiny back that is typical of beetles. This curved back is made of two hardened wing covers which open to reveal two transparent wings with which the ladybird can fly.

There are eighteen different species of ladybird in Ireland. Some of them are red with black spots such as the seven spot and the much smaller two spot. But we also have yellow ladybirds with black spots, red ladybirds with cream spots and even a pink ladybird with black and yellow-ringed spots. They are all brightly coloured and all are poisonous — to birds that is. All ladybirds are brightly coloured to warn birds not to eat them. They contain formic acid so that if an inexperienced bird were to eat one its tongue would be burnt and it would never eat another one. So the bright colour acts as a warning. In fact, if you catch one and let it walk on your hand it might secrete some of this orange-coloured liquid which — if you were a bird — would burn your tongue and you would spit it out. This is another defence stratagem.

Ladybirds themselves are carnivores and they eat greenflies. They visit gardens where there are roses, in order to feast on the greenflies that are sucking the juices out of the tender rose leaves. In the winter when there are no greenfly to eat, ladybirds will hibernate. You could make a "hotel" for them in the school garden by tying together a bundle of hollow bamboo sticks and leaving them on their side on a shelf or something above the ground. The ladybirds could climb in here and have a safe place over winter.

To do with Junior Infants

- Learn the rhyme:

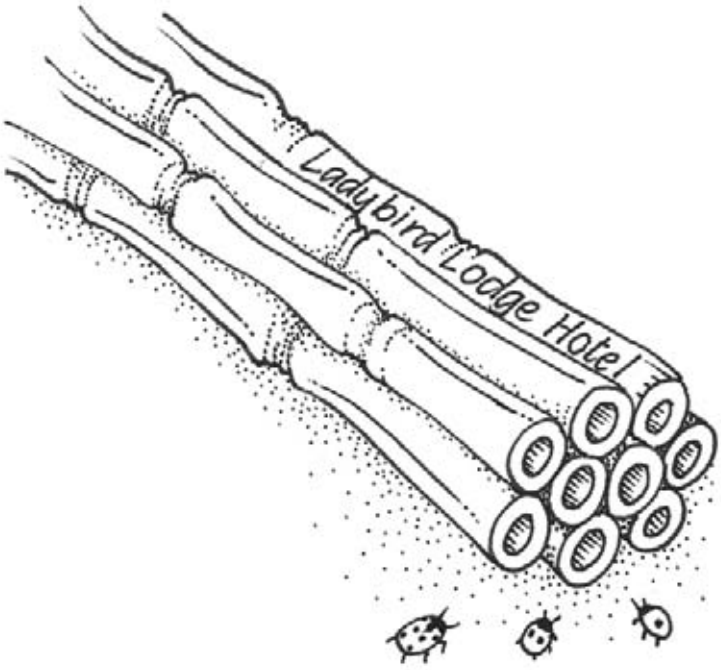
  Ladybird, ladybird fly away home

  Your house is on fire, your children are gone

  All except one and that's little Anne

  And she crept under the frying pan.

- Bring the children out to look for ladybirds at the end of May, in June and in September. Places such as rose beds, hedges, low shrubs are all good places to look. You could also shake the branches of a tree into an upturned umbrella and see if any fall down into it.



Senior Infants

Buttercup

White Clover

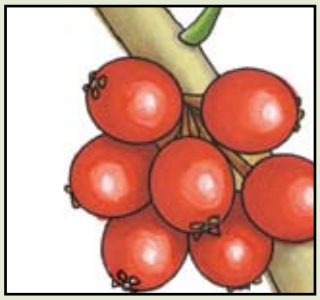
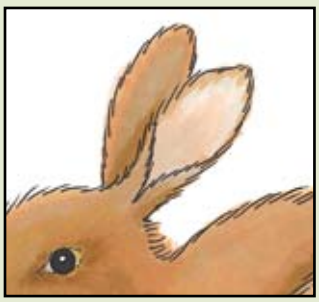
Holly

Rabbit

Swan

Spider



Buttercup

Latin name – *Ranunculus repens*
Irish name – *Fearbán* and also *Cam an Ime*

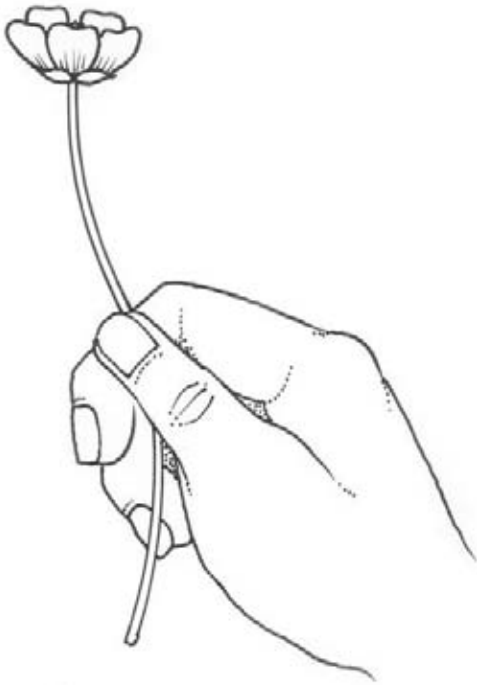
Buttercup

Buttercups are wild flowers that grow in grassy fields that are not mowed. Unlike daisies and dandelions which grow from rosettes and can survive mowing, buttercups will not grow and flower on a continually mowed lawn. So look for them beside the hedge if this is the case in your school — or indeed arrange for a small unmown patch to be left for the buttercups.

Buttercups start to flower by the end of April and continue in flower all summer long right up to September. The flower has five bright yellow petals. There are five sepals on the outside of the petals and a great number of male stamens inside the petals. They contain nectar deep within the flowers to attract insects and are visited particularly by butterflies in summer months.

They are called buttercups in English because it was thought that a pasture full of buttercups eaten by cattle would give a golden colour to the milk and even more so to the butter made from the milk. This is not actually true — buttercups are generally avoided by cattle. They have an acrid taste and one of the Irish names for buttercups, fearbán, reflects this.

Children play the game of holding a buttercup under another child's chin to see if they like butter. Butter must have been more popular long ago among children than it is now, as there is invariably a golden glow on the child's skin which of course means "they like butter", which may not actually be the case. Scientifically, any bright yellow object held under the chin of any child of any skin colour — particularly on a bright, sunny day — will give a golden reflection.



To do with Senior Infants

- Bring them out to look for buttercups. Get them to count the petals and see the sepals behind the petals. Get them to check if their companion "likes butter". Then get them to repeat this using a dandelion. What can they conclude from this exercise?

White Clover

Latin name – *Trifolium repens*
Irish name – *Seamair bán*

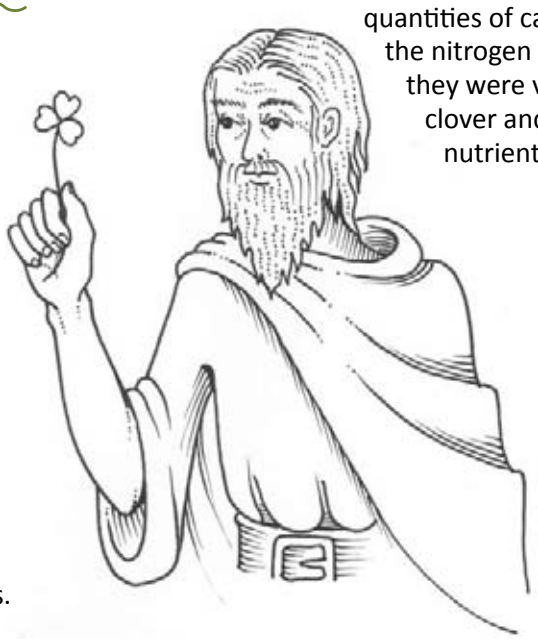
White Clover

This plant grows commonly in lawns and fields. Early in the year just its leaves are obvious. These are described as trefoil leaves — three leaflets from one stem. These trefoil leaves are easy to find and to recognise. Each leaflet is heart shaped with a pale V-shaped mark. The Irish word for clover is seamair. In spring when there are no flowers out yet, the leaves are young clover — seamair óg or shamrock. There is a tradition that St Patrick used the leaf of the shamrock to illustrate his teachings about the Holy Trinity to the Irish people long ago. Just as there were three leaflets united in one leaf of the shamrock — so were the three deities of the holy trinity united as one God. To commemorate this, Irish people wear a bunch of shamrock in their lapels on March 17th — St Patrick's Day.

The plant begins to flower in April and there are white clover flowers all summer long until the end of September. The white clover flower head is actually a cluster of small individual flower heads.

The flowers can be visited by honey bees who gather the nectar to make particularly delicious clover honey. As the clover is a member of the pea family, its seeds are carried in pods.

Clover was planted by farmers in their pastures to improve the fertility of the soil. Plants need nitrogen in order to grow and usually, to get a good crop, the farmer must add nitrogen as a fertiliser to the soil. All members of the pea family — including the clovers — are able to take in the nitrogen from the air and use it to grow. They are able to fix nitrogen in this way because they have special nodules on their roots. These nodules are formed because the plant can form an association with a particular type of nitrogen-fixing bacteria and together the plant and bacteria work in a symbiotic relationship to fix nitrogen from the air. Thus, in the days before farmers had large quantities of cattle slurry to restore the nitrogen levels in their soil, they were very glad to plant clover and let it improve the nutrient quality of their soil.



To do with Senior Infants

- Around St Patrick's Day, the class can be brought out to collect shamrock from the school lawn or field. They can be told about the tradition of St Patrick and the shamrock.
- In May or June the class can go out to look for clover in flower. White clover has obvious white flower heads. Pupils may also find red clover which has purple flowers which are larger than those of the white clover. They may also find small yellow clover flowers. These belong to a different species — yellow clover — which grows in the drier parts of grassland areas.

Holly

Latin name – *Ilex aquifolium*
Irish name – *Cuileann*

The Irish name is commonly found in Irish place names such as Moycullen – the plain of the holly, Glencullen – the glen of the holly, Kilcullen – the church of the holly.

To do with Senior Infants

- Bring them out to look at a holly tree — particularly in autumn when there may be berries on it. Collect berries to grow into holly trees. Collect the berries when they are red in October. Remove the flesh and wash the stones. Mix them with 3 or 4 times their volume of 50/50 sand and peat and put into a flower pot with drainage holes. These are left outside for 18 months or two winters — before they germinate. They can then be planted in separate pots until they are big enough to go into the ground.

Holly is a native evergreen tree. It has broad leaves unlike coniferous evergreen trees such as pine trees. It grows naturally as an under layer in an oak woodland. Its dark green leaves can tolerate the lower light levels here. When the oak canopy trees have lost their leaves from the end of October to the end of April, there is plenty of light in the woodland for the holly to grow.

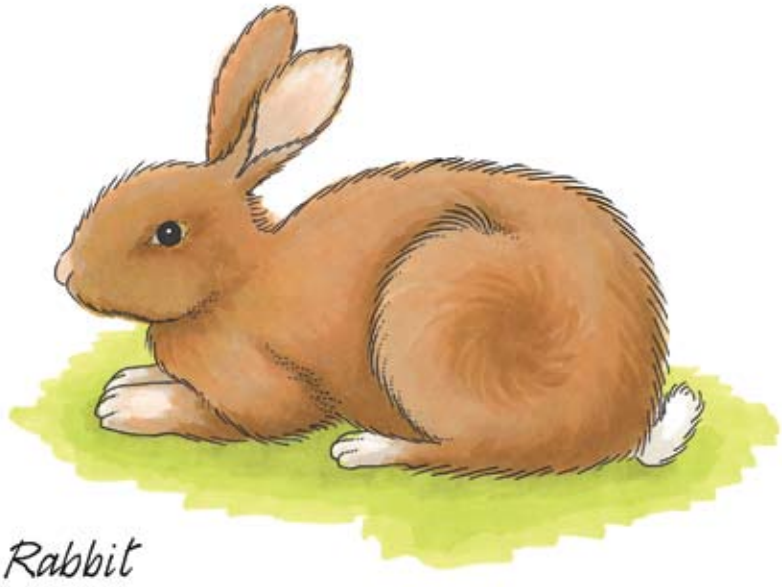
Holly is unusual among Irish trees in that there are male trees and female trees. The female trees have berries and the male trees produce pollen on special male-only flowers. The pollen is blown by the wind to the female trees whose flowers only contain female parts. When these are fertilised by the pollen, berries are then formed which turn red in the autumn. These berries contain a hard stone which is the seed. Thrushes in particular are very fond of holly berries and will guard “their” tree against all invaders. They swallow the berries whole and excrete the hard stones in their droppings, from which new holly trees grow.

Holly has prickly leaves on its lower branches only. If you look higher up in the tree you will notice that the leaves have fewer and then no prickles on the leaves. The prickles are a defence against being eaten by browsing animals such as deer and when the branches are high enough to be out of the reach of foraging deer there is no longer any need for prickles.

In early Irish law the most valuable tree species were called “the nobles of the wood” and there were severe fines for cutting them down or destroying them. There were seven noble trees — holly was one of them because its young soft leaves were used as fodder for animals and its hard timber was used for spears and chariot poles. The word holly in English comes from holy, as the red berries were thought to symbolise drops of Christ’s blood. However, the tradition of bringing holly into the house at Christmas goes back much earlier than Christian times. They were the only trees in leaf in winter in the deciduous forests of old in Ireland and therefore symbolised life and the sun. So, just after midwinter on December 22nd when the sun began to move back up in the sky holly was brought into the house to celebrate and to keep away evil spirits.

Rabbit

Latin name: *Oryctolagus cuniculus*
Irish name: *Coinín*



Rabbits were introduced to Ireland by the Normans as a source of food. The Normans were of Scandinavian origin originally and the name they had for the rabbit was the Danish word Koinin. So the Irish adopted the name — Coinín and indeed called places after it such as Coney Island in Sligo and the Cunnigar in Dungarvan in Waterford.

Rabbits are herbivores and in the wild can live on grasses. They make burrows underground to sleep and breed in and they scamper down these burrows at the least sign of danger. Their short white tail is called a scut and the sight of this moving at speed together with a warning thump of their hind legs warns other rabbits if danger is near.

Rabbits live in colonies and there can be many burrows together in an area where the soil is loose enough to excavate, such as in a sandy area or in a ditch at the end of a field. While they can live perfectly well on grasses, they are particularly fond of softer vegetable leaves and will raid neigbouring gardens in the early morning and eat the owner's prize possessions. Digesting grass is very difficult and the rabbit has to pass the food through its intestines twice, in order to extract all the food value. So they actually eat their own droppings first time round at night in the burrow and when they are excreted a second time next morning above ground they are completely dry and devoid of any nutritional value. This practice is called coprophagy.

The expression "breeding like a rabbit" is well founded in scientific fact. The female does begin to breed at a year old and there may be up to seven kittens in each litter. The kittens are born 30 days after mating and the mother can mate and conceive the next litter within 24 hours after delivery of the previous one. As a female rabbit can live as long as five years she could give birth to up to 350 babies in her life-time and be a great-great granny many times over before she dies.

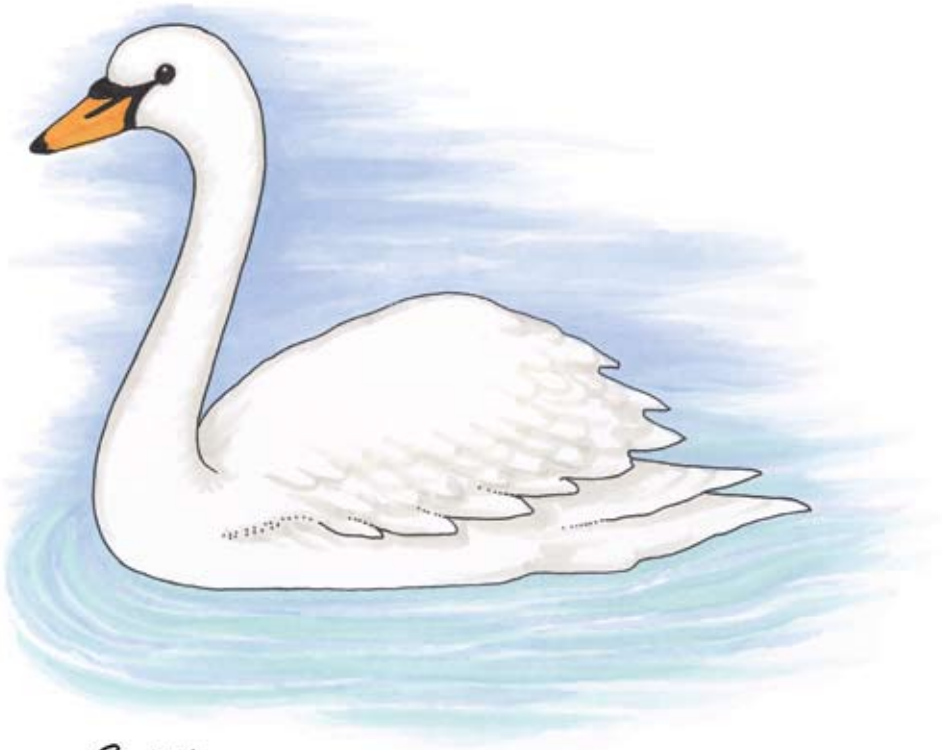
Rabbits are food for many other animals in the food chain however. They are eaten by stoats, foxes, badgers and mink as well as birds of prey such as the Donegal golden eagle or the buzzards that are now becoming common in the eastern half of Ireland.

To do with Senior Infants

- The story — *The Adventures of Brer Rabbit* by Julius Lester — could be read to the pupils. These are American stories of how the clever rabbit was able to avoid all efforts to capture him. The story *Watership Down* by Richard Adams is also about rabbits.
- At Easter pupils can make Easter cards with pictures of Easter bunnies and Easter eggs.

Swan

Latin name – *Cygnus*
Irish name – *Eala*



Swan

The swan is unmistakable. It is a large white bird with a long neck and an orange beak and it lives on ponds, lakes and canals. It is found in ponds in parks, in cities and towns and on rivers and lakes in rural areas. It also can live in estuaries by the sea. Swans are thought to mate for life and a pair will occupy a territory on a pond or river and build a nest each spring. Nests are large affairs made from reeds and sticks, and litter and rubbish can be added in too. Five to seven eggs are laid between March and May and incubation takes about 36 days.

The young are called cygnets and they are able to swim the moment they hatch out. They are minded very well by both parents who will attack intruders by snorting and hissing at them, raising up their feathers in a threatening manner and indeed attacking if pressed. The young are taught to feed on submerged vegetation which they collect by upending themselves, stretching down with their long necks and pointing their tails up in the air. They will also come to eat bread if they are fed.

Young swans have browny-grey feathers and they don't get the snowy white feathers until the spring time. At this stage they leave their parents and assemble in large bachelor herds at coastal estuaries or other good feeding grounds. Here they will stay until they are old enough to breed at two or three years of age.

Migratory swans have straight necks and yellow and black bills. These are Whooper swans which come here in winter from Iceland and Bewick's swans who come from Russia and Siberia. These pass the winter in Ireland and return to their northerly breeding quarters when the snow and ice there has melted in mid-April.

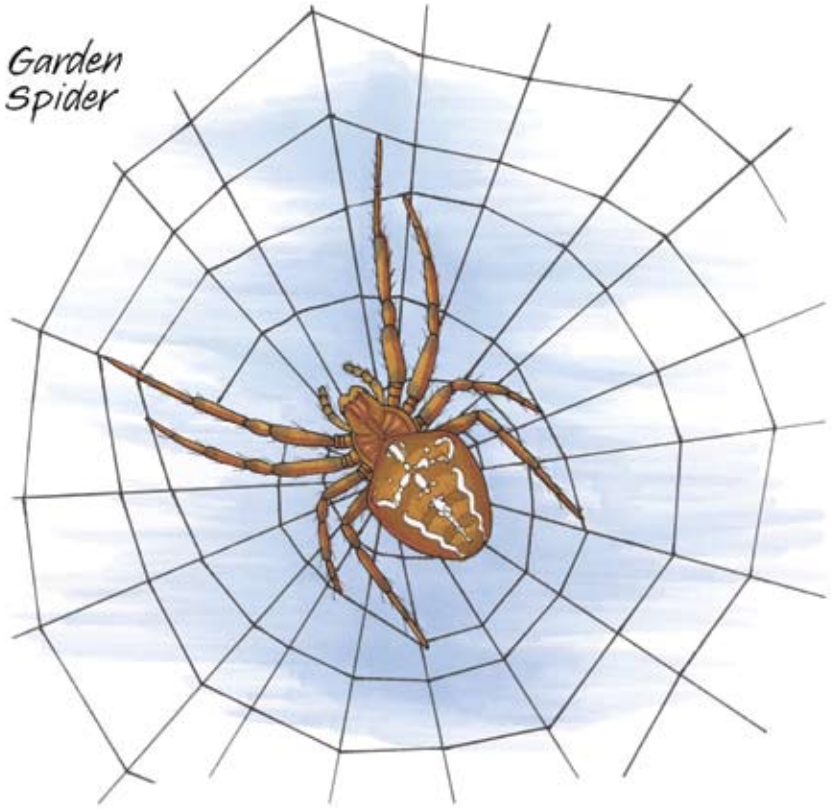
Children of Lir

To do with Senior infants

- Tell them the story of the "Children of Lir" and Hans Christian Anderson's "The ugly duckling".
- Take them to the park to feed swans with bread if there are any in the nearby locality.
- On their return get them to draw pictures of swans in their copies and colour in the beaks.

Spider

Latin name – *Araneus diadematus*
Irish name – *Damhán alla*



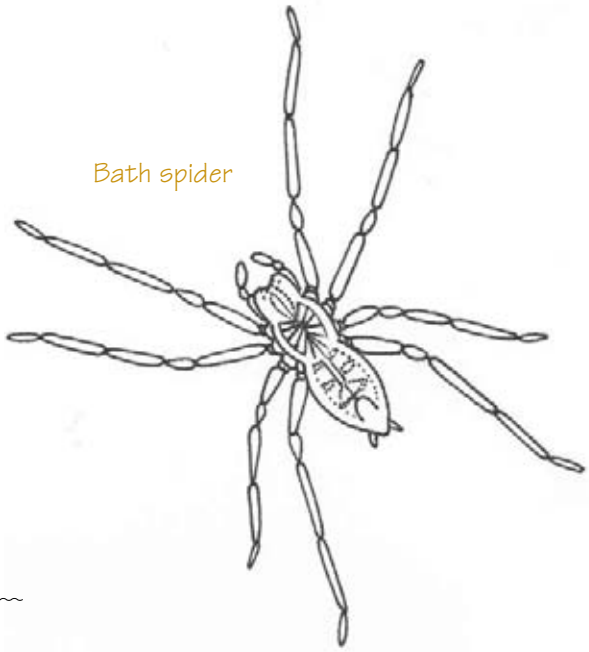
Spiders are not insects but belong to a group called arachnids. All spiders have two parts — a head and a body. All spiders have eight legs — all of which are attached to the head. All spiders have two palyps at the top of the head (which they use for smell). Male spiders have longer palyps than females. All have eight eyes and two fangs — which are sharp hollow teeth through which they inject venom into their prey to kill them. All spiders have fangs and venom but in Ireland our spiders are too small to be able to penetrate our skin with their fangs. In South America the biggest spiders — tarantulas — are found and their fangs can kill birds and mammals such as mice. They can give humans nasty bites too.

In Ireland we have hunting spiders and web-spinning spiders. The hunting spiders come out at night and run after their prey. They can come into our houses if we leave windows open and can fall into the bath if it is the bathroom window they climb in. They are so big and the bath is so shiny that they cannot climb out again — which is why it is always a huge spider that is in the bath — the small ones can climb up and escape.

Web-spinning spiders make webs from silk produced by spinnerets at the end of their bodies. These sticky traps are positioned to catch unwary flying insects which blunder into them and become enmeshed in the sticky threads. The spider, who is waiting at the centre of the web, rushes in and kills the prey with a bite of its fangs. The spider doesn't get trapped in the sticky web because it has oily feet that do not stick to the web. Having killed the trapped insect, the spider then sucks out all the soft insides as food, leaving hard bits such as wings and legs behind.

Any surplus flies are killed and wrapped up in silk and stored to be eaten later — or indeed to be presented to the female spider when the male goes looking for a mate. Spiders are not only carnivores, they are cannibals and the female will eat the male if given half a chance. So the male presents the female with a well-wrapped fly and mates with her while she is distracted unwrapping it and eating it. In other countries the males are not so lucky — how do you think the Black Widow of North America got its name?

Eggs are then laid in a web of silk and the young are left to their own devices. When they hatch and begin to move towards each other in an effort to eat each other the movement breaks the web nest and the spiderlings are scattered in the wind.



To do with Senior Infants

- Teach them "Incy wincy spider" and "Little Miss Moffat". Read them *Charlotte's Web* by E B White.
- Go outdoors on a damp, misty morning in late September to look for spiders' webs all outlined with dewdrops. Railings or gorse bushes are good places to look.

First Class

Primrose

Bluebell

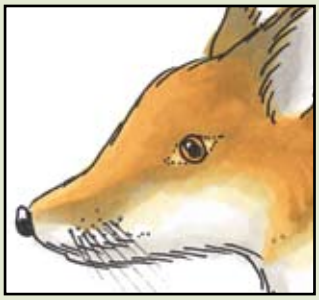
Oak

Fox

Blackbird

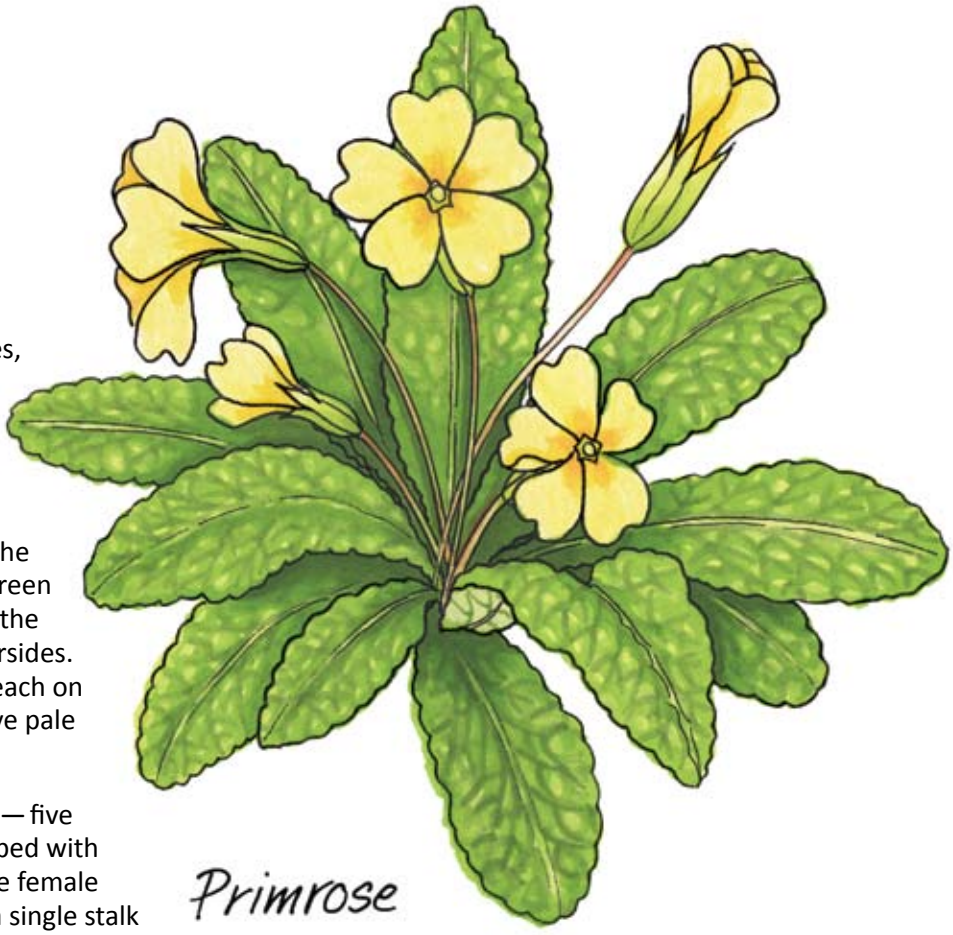
Woodlouse



Primrose

Latin name – *Primula vulgaris*
Irish name – *An Sabhaircín*



Primroses are a real harbinger of spring. They grow in hedges, ditches, on banks and along the edges of woodlands. Their pale yellow flowers are very familiar and they have a very cool fragrant perfume. They appear in south-facing banks to begin with (as early as March). The leaves emerge first — a rosette of green crinkly leaves which taper towards the base and are whitish on their undersides. The flowers then begin to appear, each on its own separate stalk. There are five pale petals, each one heart-shaped.

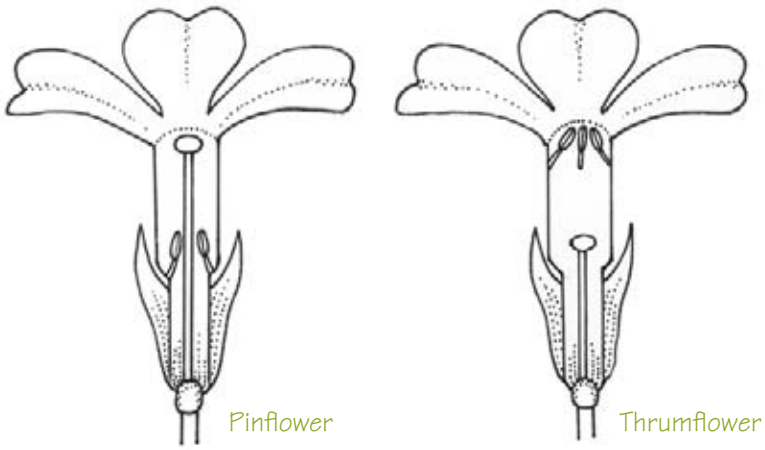
The flowers contain the male parts — five stamens which are small stalks topped with anthers containing pollen — and the female part which is the ovary topped by a single stalk called a style. Pollen from another flower must reach this style to fertilise the ovary and this pollen is carried by insects. To avoid the possibility of self-fertilisation, the stamens and the style are of different lengths. This is of course the case with most species of flowers and indeed the female style is generally longer than the stamens.

However, if you examine the flowers of primroses you will discover something unusual. In about half of the flowers the female style is longer than the stamens as is normal for flowers and you can see it when you look at the circular area at the centre of the petals. This is called a “pin” flower. In the other half, however, the stamens are longer than the style and when you look in you will see the tops of the five stamens rather than the single style. This is called a “thrum” flower.

Primroses were very important long ago to people who kept cows. Butter making from the cream of the milk began in May and on May eve they would rub the flowers of the primroses on the udders of the cattle to make sure that they had enough milk for the butter making. In other areas primroses were thrown on the roof of the house before dawn on May Day to protect the butter from the fairies.

To do with First Class

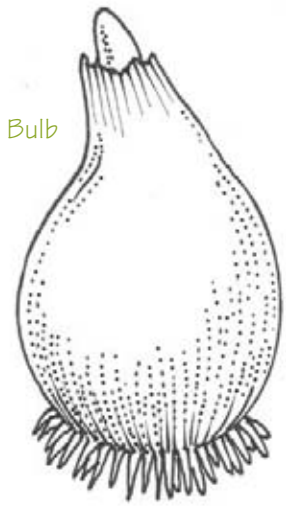
- Go out looking for primroses early in the year and note the date when the first primrose is seen. With climate change, primroses are flowering earlier each year so keeping a record of the first primrose is a way of monitoring this for your area.
- Pupils could count the number of petals and draw the flower and leaves in their workbooks on return from the trip. They could look for pin and thrum flowers.



Bluebell

Latin name – *Hyacinthoides non-scripta*
Irish names – *Bú muc, Coinnle corra* and *Cloigín gorm*

Bluebell



Bluebells are woodland flowers that appear in late spring and early summer. A woodland just coming into leaf with a carpet of dark blue bluebells is one of the most beautiful sights of nature. They grow from bulbs that overwinter from year to year in the ground. The long, narrow leaves appear first in April and by May the flowers have opened. Each stalk carries a one-sided line of flowers that droop at the tip. The fruit of the plant is a capsule which splits into three revealing the little seeds inside. These are left on the stalk long after the flowers have gone — right up to July.

The stalk carries seven or eight flowers that open from the bottom up. Each flower has six petals that are fused together at the bottom forming a crown as it were. There are six stamens surrounding the pear-shaped ovary topped by a style. The flowers are pollinated by insects and the ovary swells to become a three-sided capsule containing the seeds. By late July the whole plant has died back and is not seen again until the following spring.

Plants that grow on the floor of woodlands get their flowers early in the year before the leaves open fully on the trees and the canopy closes. They do this to avail of the light that is available in April before the leaves fully open on trees such as the oak, birch and finally the ash by the end of April and the middle of May. This is called adaptation and it is how these plants can live in a habitat that is too shady at ground level later on in the year for anything but ivy and ferns.

Bluebells have a gummy sap in the bulbs underground which was used in the old days as a substitute for starch or as a glue for book binding. Its Latin name is hyacinth and it is related to the hyacinth flower considered by ancient Greeks to be a flower of grief and mourning. The classical myth is that Hyacinthus was a youth that was loved both by the sun god Apollo and the god of the west wind Zephyrus. However, Hyacinthus preferred Apollo and one day when he was playing a game called quoits with Apollo, the jealous Zephyrus blew one of the quoits off its course and it struck Hyacinthus and killed him. Apollo caused a purple flower to rise up from Hyacinthus' blood which is known to this day as a hyacinth.

To do with First Class

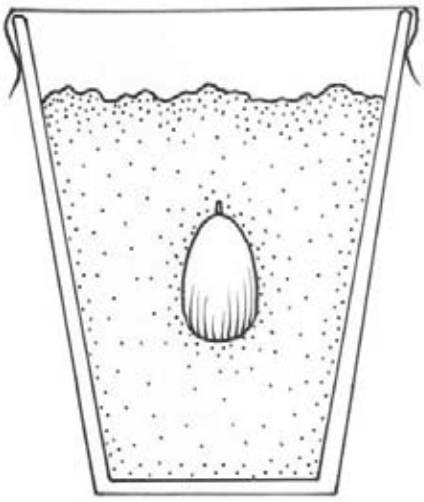
- Plant bluebells in a shady part of the school grounds. Buy the bulbs in a garden centre in autumn and plant them in October.

Oak

Latin name: *Quercus*
Irish name: *Dair*

The oak tree is described as the king of the woods. It was greatly valued in olden times in Ireland and was considered to be one of the "nobles of the wood". It is the canopy tree in our native oak woodlands that have been here since the end of the last Ice Age ten thousand years ago. Oak trees are one of the last trees in Ireland to get their leaves each year — it is usually the end of April before they emerge from their brown buds.

Oak leaves are particularly prized by all sorts of insects who feed on them. The caterpillars of the purple hairstreak butterfly depend on them, as do many species of greenflies, shield bugs, moths etc. It fact it has been estimated that some 286 species of insects and other invertebrates feed on the leaves of the oak. All this eating of fresh oak leaves in May and June leaves the tree somewhat depleted. But the tree fights back, producing a new growth of leaves with lots of unpalatable tannin in them and quite browny-purple in colour at the end of July. These are called "Lammas Growth ", Lammas being the time of year between July and August.



Catkin-like flowers are produced by the tree in early April before the leaves are formed. This is because they are wind pollinated and the presence of leaves would get in the way of the blowing pollen. Acorns are formed from the fertilised flowers and ripen in autumn. These are prized as a source of food by birds such as jays and rooks, squirrels and by mice. Grey squirrels are able to eat unripe acorns, red squirrels must wait until they are fully ripe, by which time if there are grey squirrels in the area the acorns may be all gone, leaving the red squirrel short of food and unable to compete with the grey. New oak trees will emerge from acorns which may have been buried and not retrieved by their owner later in the winter.

There are two native oak species — the pedunculate oak whose acorns are borne on stalks and the sessile oak whose acorns have no stalks. Both are very long-living trees and can survive for well over five hundred years in ideal circumstances. The Irish name is dair and many places in Ireland reflect this. Counties Kildare and Derry are called after the oak as are all the place names beginning with Derry such as Derrynaflan and Derrynane.

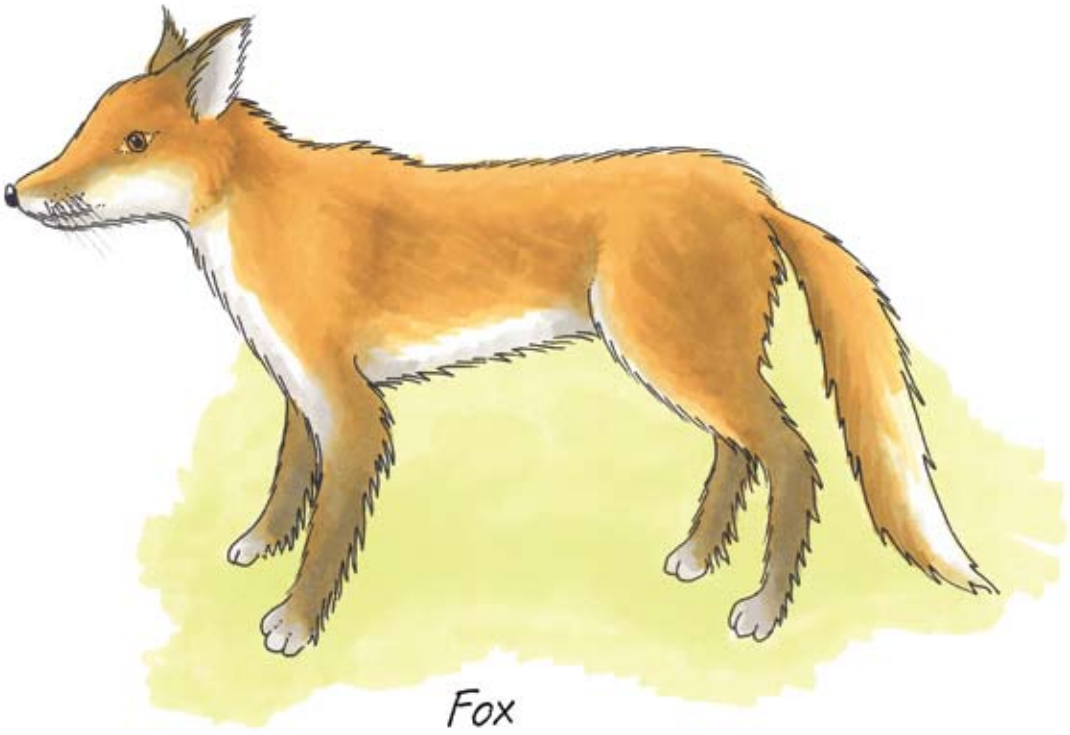
Oak trees produce tannins so oak bark was much in demand by the leather tanning industry. Its timber was excellent for shipbuilding and for use as charcoal. So it was no wonder at the time of the plantations — particularly the Cromwellian plantation in the 1650s when soldiers were paid in land rather than money — that the first thing the planter did was strip the land of its timber in case their tenure there didn't last very long.

To do with First Class

- Find an oak tree that the children can be brought to see. Collect leaves and acorns. Back in class get the pupils to draw outlines of the leaves so that they will learn their characteristic shape. The acorns can be sown in pots of compost and planted out the following summer when the seedlings have emerged.

Fox

Latin name – *Vulpes vulpes*
Irish names – *Sionnach* or *Madra rua*



The fox is one of our most common and familiar mammals. It is a native Irish species, and probably returned to Ireland after the last Ice Age, 10,000 years ago by crossing a land bridge from Europe. It occurs in every county and estimates reckon that there are up to 200,000 foxes in the country. They can live in farmland, woodland, sand dunes, uplands and most successfully of all in built-up urban areas. They excavate underground dens or earths, where breeding foxes have their cubs. These are easily detected because the entrance will be strewn with food debris, as foxes are very untidy creatures. There will also be a very strong smell of fox.

The breeding season occurs from late December to early February. At this time foxes communicate with each other by sound — the male with a series of barks and the female vixen with bloodcurdling screams. The cubs are born between late February and the end of April. There are normally four or five cubs and it takes up to seven months before they are fully grown.

Many young foxes die in their first year as they are unable to establish territory and can die of hunger or are killed on the roads. If they do succeed they can live up to ten years.

Foxes are omnivores, which means they can eat food of animal and of vegetable origin. They are opportunists and will eat a great variety of food such as rabbits, young hares, brown rats and mice as well as small birds, eggs and nestlings, beetles and earthworms, and coastal foxes eat crabs and fish They like blackberries and apples too but of course they have a bad reputation because they kill chickens and eat dead lambs, and are not above killing the odd baby lamb or two as well.

In cities people are quite fond of foxes and they often feed the foxes that visit their garden looking for scraps from the dustbin. Fox cubs are often left alone all day while their parents are looking for food and they can come out of the earth and play in the garden in good weather — a sight which pleases home-owners in urban areas.

To do with First Class

- Read Roald Dahl's book *Fantastic Mr. Fox* and *Run with the Wind* by Tom McCaughren.
- There are several fox songs such as "Maidrín rua" and "Little fox" which are great fun to sing. Download the words and tunes from the internet.

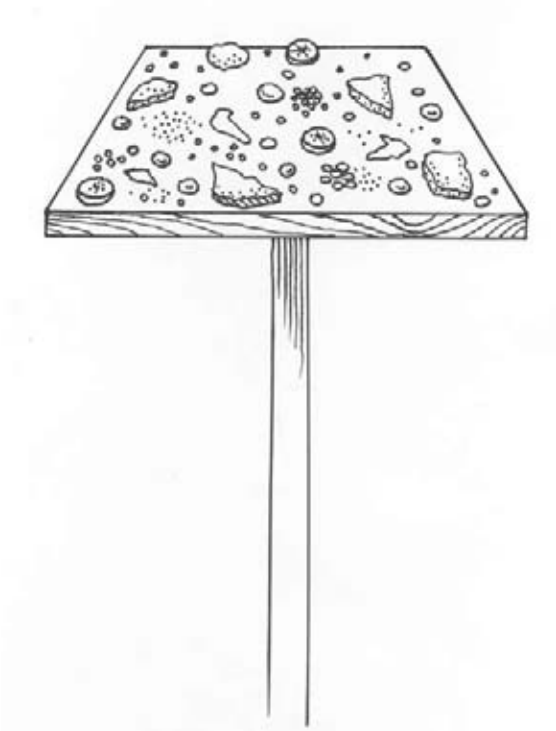
Blackbird

Latin name – *Turdus merula*
Irish names – *Lon dubh* (male) *Céirseach* (female)

The blackbird is one of the most common birds found in gardens, both in cities and towns and in rural areas. There are nearly two million breeding pairs in Ireland and the song of the male is very familiar — particularly as he is generally the very first to lead off the dawn chorus each morning in early summer. Only males sing — this is true for all birds — and the blackbird is singing to attract a mate and to hold territory. It is not long before he is successful, and himself and his newly acquired mate are building their cup-shaped nest out of plant material lined with a mixture of mud and dead grass. Three to five eggs are laid, which take fifteen days to incubate.

Baby blackbirds are fed by both parents on a mixture of insects and earthworms. By fifteen further days they fledge and leave the nest. However, the baby birds are still dependent on their parents for a further three weeks to teach them how to find food for themselves and at this time baby blackbirds are vulnerable to attacks from cats, magpies and other enemies. Adult blackbirds will rear two and sometimes three broods in a single year.

Adult male blackbirds are jet black with a bright orange bill and orange eye ring. Female blackbirds are dark brown in colour and lack the bright orange beak of the male. Juvenile blackbirds are black with brown speckles. Blackbirds are omnivores, which means they eat high-protein food such as worms and insects when available and indeed feed this to their young — but in winter when such food is not available, they can eat and digest fruit and berries which they swallow whole.



To do with First Class

- It is very important to feed birds during spells of bad weather in winter so the class could set a bird table within view of the classroom window and put out food such as bread, seedcake, seeds and fruit. Half-apples on the ground are particularly popular with them too. It is important to put out fresh water for birds to drink and to bathe in.

Woodlouse

Latin name – *Oniscus ascellus*
Irish name – *Cláirseach*


Woodlouse

Woodlice are very common creatures found in gardens and school grounds. All you have to do is turn over a stone or a flower pot or look under dead leaves and a colony of woodlice will be uncovered. They are not insects — they are members of the group Crustaceae and are related to crabs and lobsters. Insects all have six legs but the woodlouse's body is made up of seven segments with a pair of legs on each segment — giving it fourteen legs in all. Their bodies are different to those of insects too and will dry out if exposed to light for too long. So woodlice come out at night and hide away during the day to avoid drying out.

Woodlice feed on dead plant material such as dead leaves, rotten wood and dead plant roots. They play a very important role in the food chain as the nutrients locked in the plants are broken down and released by their activities. This is why they are so abundant in the leaf litter at the bottom of a hedge or in woodland.

They in turn are part of the food chain, being eaten by spiders, pygmy shrews, hedgehogs and any bird sharp-eyed enough to see them. We have over 20 different species of woodlouse in Ireland — one called the pill bug is able to roll itself into a sphere when disturbed and this helps it to evade capture.

To do with First Class

Because they occur in such numbers it is easy to collect a dozen or so. In the class you can set up simple behaviour tests with them.

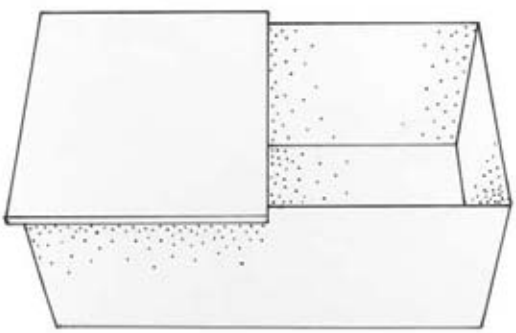
Do woodlice prefer light or darkness?

- Get a shoebox. Have half the box covered with a lid. Put six of the woodlice into this box. Have a second similar shoebox with no lid as a control to show that you are doing a fair test, and put the other six in there.

  Come back later and observe where the woodlice are. They will all be in the shady side of the box.

Do woodlice prefer damp or dry?

- You can set up a similar experiment with the two boxes only this time no lids on either but a damp sponge in one section of one of the boxes and a dry sponge in a different section. Put two dry sponges in the second box. Put six woodlice in each and observe what happens. Are there more woodlice at the damp sponge than at the dry sponge?



Second Class

Self-heal

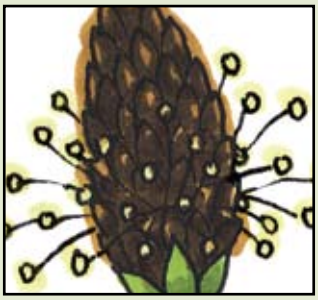
Ribwort

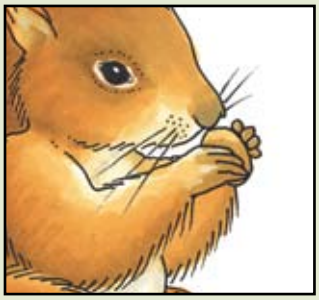
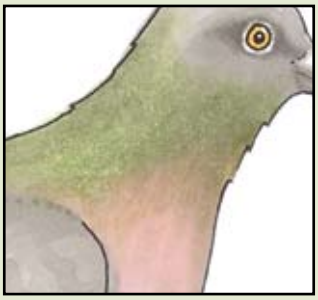
Ash

Squirrel

Pigeon

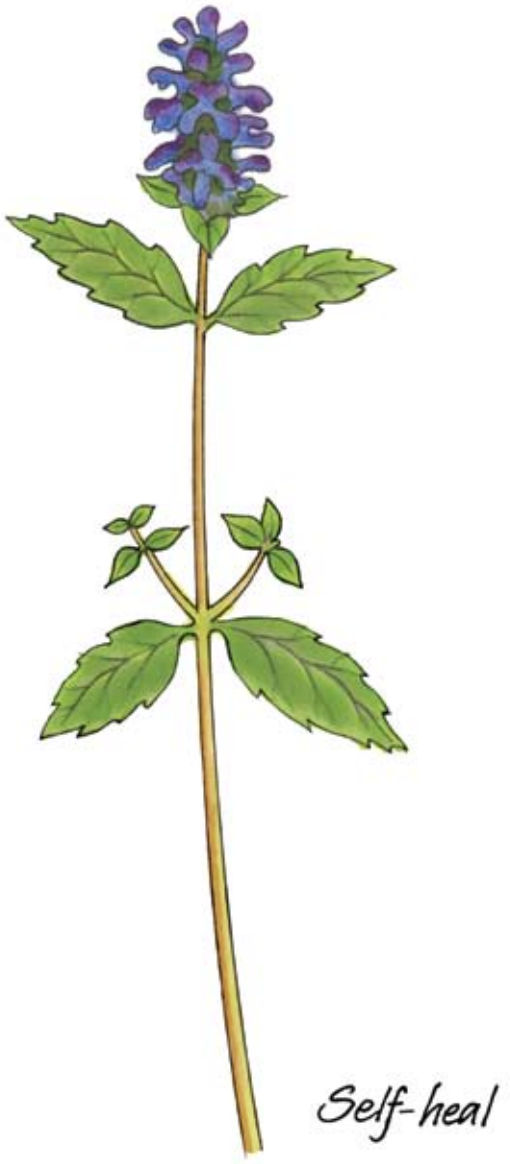
Bee


Self-heal

Latin name – *Prunella vulgaris*
Irish name – *Duán Ceannchosach*



Self-heal is a very common purple flower found in lawns and grassland. It is a perennial and grows from year to year, emerging in spring once the temperature begins to rise. It is a small plant with a creeping stem and slightly hairy oval leaves. It has a square stem which makes it easy to identify. The flowers emerge at the end of May and last until the end of September. These flowers are carried in a loose head at the top of each stem.

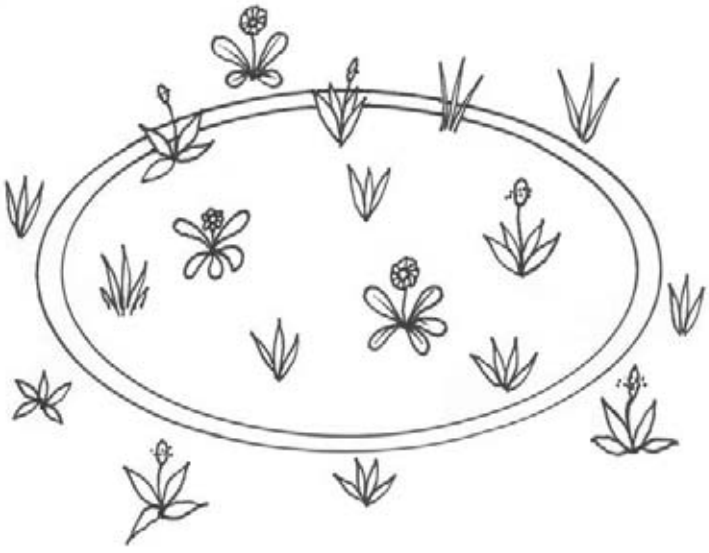
Each flower is purple in colour and is described as being an irregular flower. This means that there is a top and a bottom to the flower as you look at it. The flower has two lips — the top lip is slightly hooded and the bottom lip is three-lobed with the centre lobe the largest of the three.

By Second Class the pupils have already learnt about the daisy, dandelion, white clover and buttercup that grow in the grassy area of the school grounds so it is an exercise in observation sending them to find the purple self-heal flower when they are out of doors on a field trip.

The English name self-heal tells us that this plant played a very important role in the days when people had to get all their medicines from the plants they could gather. This plant was one of the best to heal wounds and so it got the name self-heal from the fact that it was easy for a person to gather it and heal themselves. It was also used for heart complaints — a tea was made from the plant and drunk to cure palpitations of the heart. It was given to children to rid them of worms and it was also thought to cure fevers and, surprisingly, to cure tuberculosis — something that it did not actually do.

To do with Second Class

- A field trip to the grassy area near the school should be carried out in September and again in June to find all the wild flowers they know so far. The self-heal will be a new one to the list and should be easy to find on close inspection. One way to do this is to throw a hoop on the ground and examine all the plants within it. Which is the most abundant? How many different species of plants are there within the hoop?



Ribwort

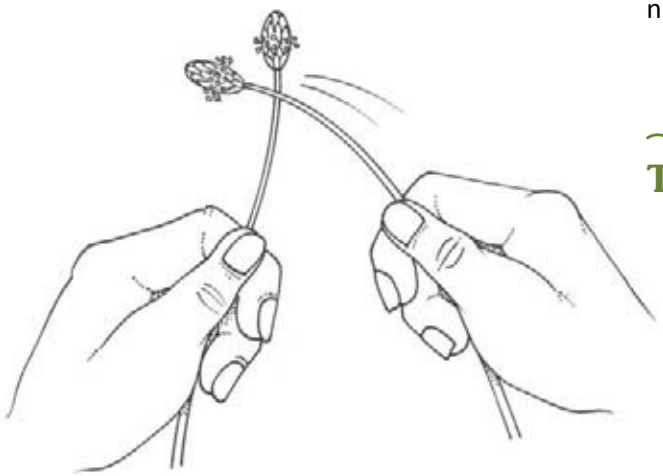
Latin name – *Plantago lanceolata*
Irish name – *Slánlus*

Ribwort is a rosette-leafed plant that can grow and survive in lawns that are constantly mown, so it should be easily found in the grassy areas of the school grounds. Plants other than grass that grow on lawns are commonly referred to as weeds. However, no plant is actually a weed as such — a weed is a plant in the wrong place. Gardeners and farmers who encounter plants they didn't sow among their crops are entitled to call these weeds as they take from the crop they have sown. However, on a grassy area in school, wild flowers are likely to grow among the grass and they add to the biodiversity and educational value of the area.

Rosette-leafed flowers such as daisies, dandelions and ribwort grow from a bud buried deep in the rosette of leaves. Thus, mowing the grass does not kill them — rather it kills their competitors such as buttercups and self-heal and therefore favours them. This plant has a rosette of lanceolate-shaped leaves with ribs going lengthwise along them. The flowers are carried singly on the top of furrowed stems — maybe three or four per plant. There are no obvious coloured petals — the flowers carry their many stamens with the yellow anthers containing pollen, prominently so that the wind can blow the pollen from flower to flower. These can be seen all summer long from May until September.

This plant has several common names — plantain, ribwort, soldiers. Ribwort comes from the five ridges on its leaves which look like ribs and, according to one theory (the Doctrine of Signatures) which said that God left clues in the plants as to what they were good for, was said to cure ailments of the ribs. The name "soldiers" comes from a game played by children who took it in turns to try and knock the heads off each other's plants with their own flower head or soldier.

It was valued long ago for its use in stopping bleeding from external wounds and cuts. The leaves were macerated, applied to the wound and covered with a bandage. Its Irish name slánlus reflects this.



To do with Second Class

- This is one to look for when going on a field trip in early summer. Grass that is unmowed will have the flower heads present on plants. These can be collected by the children — one each — and a game of soldiers can be played.

Ash

Latin name – *Fraxinus excelsior*
Irish name – *Fuinseog*

St Patrick is said to have driven the snakes out of Ireland with an ash stick and it has had a special place in Ireland ever since. Whether or not this is true, it is certainly true that hurleys are made from ash and these definitely have a special Irish significance, ever since Setanta drove a ball down the throat of Culann's hound with one and had to replace him himself, thus acquiring the name Cúchulainn.

Ash is a canopy tree which can grow very tall and it once formed great woodlands together with elm on good limestone soil in Ireland long ago. These woodlands were cleared for agriculture over the centuries and the ash is now mainly found as a hedgerow tree and as a tall tree in parks in cities and towns. It is the very last tree to get its leaves, usually waiting until the month of May for the characteristic black buds to open. The leaves are compound leaves with up to thirteen leaflets on each leaf.

The flowers are wind-pollinated so these appear from the flower buds in early April before the leaves appear. The pollen can thus be dispersed by the wind without being hindered by leaves. The seeds are known as keys. They occur in bunches on the tree, remain there long after the leaves have fallen and as they each have a "wing" they are dispersed by the wind.

Ash is a native species that supports 41 different insect species. A good way to examine these is to shake a well leaved bough in mid June or in early September into an upturned umbrella and see what emerges.

In ancient Irish tradition the ash was a very valued tree and was considered to be one of the seven nobles of the woods as its valuable timber could be used for building, and making furniture.

To do with Second Class

- Find an ash tree near to the school and bring the class out to see it in each of the four seasons. In spring they can make a drawing of the twigs with black buds. In April they can find one with flowers open. In May they can note the date when the large terminal bud opens revealing the leaves. By the end of May they should be able to add a drawing of the leaf to their account of the ash tree. In September they can observe the seeds. These can be planted immediately and some of them at least will germinate the following spring. In winter they can make a bark rubbing with paper and a soft pencil. Mature ash trees have a very rough bark.


Cúchulainn

Squirrel

Latin names – *Sciurus vulgaris (red)*
Sciurus carolinensis (grey)

Irish names – *Iora rua*
Iora glas

Red Squirrel

Grey Squirrel

We have two species of squirrel in Ireland — the red squirrel which is our native Irish species and the grey squirrel — an American species which was introduced here to Castleforbes in Co. Longford in 1911. Both squirrels are herbivores and live in woodlands and in parks where there are sufficient numbers of trees to support them. *Neither* species hibernates for the winter in Ireland (despite what was once taught in schools). Squirrels collect nuts in autumn in order to have them to eat in the winter when there is no food available for them (if they were hibernating, like say hedgehogs or bats, they would be fast asleep from October to April and would require no food).

Squirrels build a nest out of sticks called a drey. This may be in the fork of a tree or more likely in a large hole in the tree and here they live during the winter. If it is too wet to forage they can draw on their stores of nuts but on fine bright winter days they will scamper down the tree and feed on the ground — grey squirrels in particular — and in fact they are easier to see in winter as there are no leaves on the trees.

They can have one or two litters per year depending on the availability of food — one in spring and one in summer with up to three or four in each litter. They are weaned nine weeks after birth and the second litter in the year may spend the winter with the mother in the drey.

Grey squirrels are bigger than red and they tend to oust the red squirrels when they come into an area. Thirty years ago only red squirrels were found in the Dublin area but now except for one colony in St Anne's Park in Raheny they have all been replaced by grey. The grey squirrel has spread south and east from Co. Longford but the red is holding on west of the Shannon. Greys do enormous damage to trees as they feed on bark and buds and this can cause small branches to wilt and snap. They also eat hazelnuts and acorns and can digest unripe acorns, something the reds cannot do. Reds like to feed on the seeds of pine cones as well as fungi which they collect from the forest floor. Red squirrels like to live in woodlands where there are evergreen trees with cones. Grey squirrels can live in the wooded areas of town parks as well as in deciduous and mixed forests.

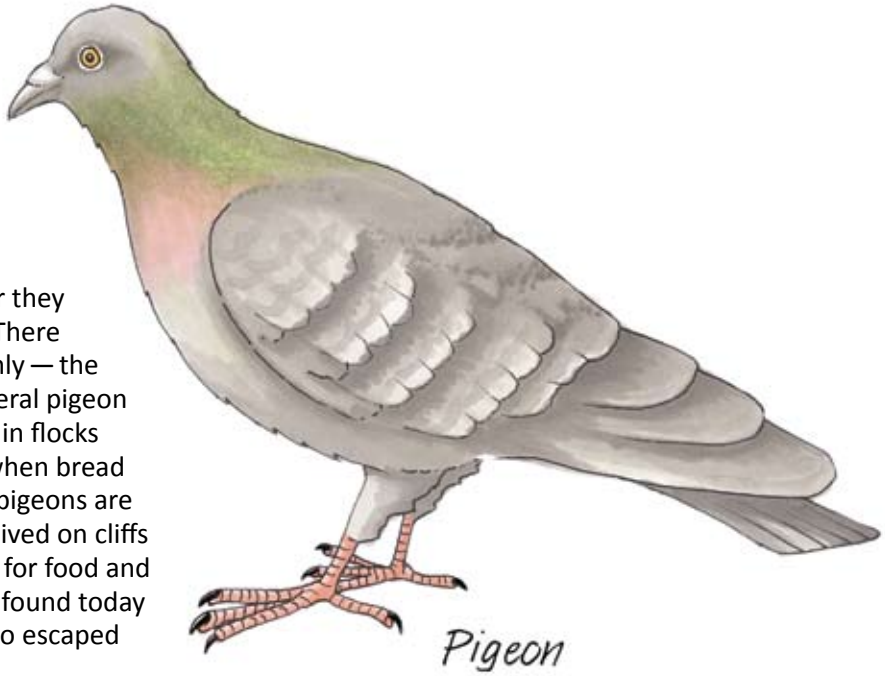
To do with Second Class

- It is quite easy to see grey squirrels if you live in an area where they are known to occur. Early in the day is the best time to go to the park or woodland and the pupils must be quiet and patient.

Pigeon

Latin names – *Columba livia* and *Columba palumbus*

Irish names – *Colm aille* and *Colm coille*



Pigeons are familiar to everyone whether they live in cities and towns or in rural areas. There are two species that occur most commonly — the feral pigeon and the wood pigeon. The feral pigeon occurs mainly in towns and cities. It lives in flocks and is the species that comes to be fed when bread is scattered in the park or square. These pigeons are the descendants of wild rock doves that lived on cliffs in rocky areas. These were domesticated for food and reared in dovecotes and the populations found today in cities are the descendants of those who escaped and settled in the wild.

Pigeons nest on ledges in derelict buildings and warehouses. Their nests are made of twigs and any other plant material they can find. Two white eggs are laid and are incubated by both parents for nineteen days. As pigeons are strictly vegetarian birds they feed their young with a type of "milk" that they produce in their crop — a storage area for food at the base of their throat. When the birds fledge 33 days later they are taught by their parents to find food such as seeds, berries and buds and of course bread put out for them by humans. They can rear between three and five broods per year. Their behaviour is very characteristic — the male preens and puffs up his feathers and walks purposefully after the nearest female. She walks away just too fast for him to catch up but she doesn't fly away either and he obviously catches up enough times to ensure the five broods.

Wood pigeons are larger birds with a distinctive call — "coo-coooo-coo coo-coo" — described as sounding like "take two John, take two". They build solitary, large, untidy nests of sticks in trees, especially in trees along the street or in hedgerow trees in rural areas. They also lay two eggs per clutch, which hatch out to a male and a female. Woodpigeons are also strictly vegetarian and feed their young on nutritious milk produced in their crops. The adults are particularly fond of green crops and many's the garden of cabbage has been ravaged by hungry pigeons in the early morning when no one is around to deter them. They can attack farmers' crops in winter when their numbers in rural areas are augmented by migrants in from Britain and mainland Europe. They can cause serious damage to crops of kale and turnips. They are also particularly fond of elderberries and their droppings in autumn can destroy the roof of any car parked by an unwary owner under a roosting woodpigeon.

Racing pigeons are exactly the same species as the feral pigeon and if they are blown off course will often join a group of wild city pigeons. They are able to navigate by using starlight and the earth's navigation force but they do the last bit home by memory. They were very useful during wartime to carry messages in small tubes attached to their leg.

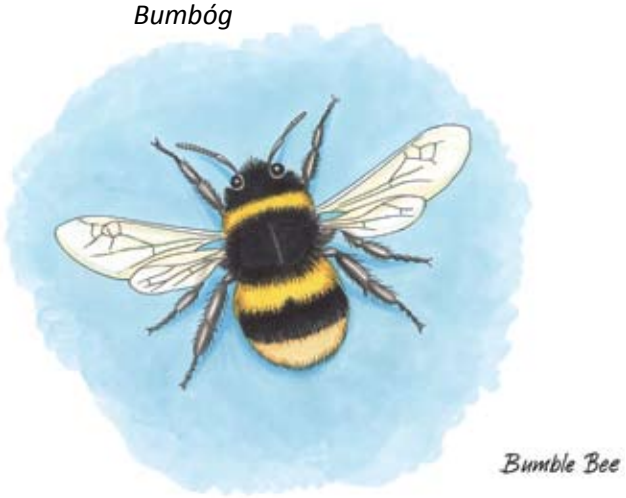
To do with Second Class

- Pigeons are very easily seen — even by a large group of children. So this is a good opportunity to get the pupils to observe the flock and note similarities and differences between individual pigeons.

Bee

Latin names: *Apis mellifera* (honey bee)
Bombus (bumble bee)

Irish names: *Beach mheala*
Bumbóg

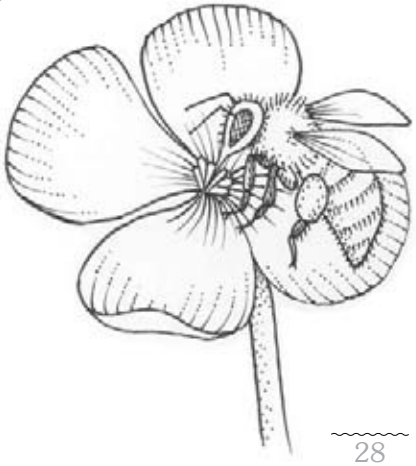


Bumble Bee

Honey Bee

Bees are insects that belong to two main groups — social bees which live in communities with a queen, i.e. honey bees and bumble bees, and solitary bees who lay their own eggs and rear their own young as individuals, for example miner bees. Bumble bees are native to Ireland and their queens hibernate for the winter. Honey bees originated in warmer climes and do not hibernate in the winter in Ireland. They cluster around their queen and feed on the stores of honey gathered by them during the summer for the winter months. Therefore, it was the honey bee that was domesticated in the olden times as they were the ones who produced honey in sufficient quantity for humans to harvest.

Honey bees live in a hive with their queen. All the eggs are laid by the queen and for most of the year these are all female. The babies are fed by their older sisters — the worker bees — who gather pollen in special baskets on their back legs especially for this job. Adult bees however do not eat pollen — they eat honey, so this has to be manufactured in the hive from nectar brought back by other bees in their nectar sacs. Worker bees do not do both jobs simultaneously. They spend three weeks gathering pollen, three weeks collecting nectar for honey and then they die of exhaustion.



The queen lays eggs in great numbers during late April and early May and the hive can become overcrowded. When the workers sense this they build bigger and different shaped cells for the queen to lay in and the resulting eggs are nourished for longer to become queens, and some males are also produced at this time. The first young queen to hatch out goes around and stings all the other younger queens to death. She then leaves the hive on her marriage flight. When she is gone the old queen with a large group of her supporters leaves the nest as a swarm and looks for somewhere else to live. The new mated queen returns to the hive and takes over where the old queen left off. Thus honey bees nests can last for many years and build up enormous supplies of honey if left undisturbed.

Bumble bees' nests are annual affairs. The queen bumble bee comes out of hibernation and builds a nest in an abandoned mouse-hole in a hedge or field. She lays and feeds the first group of young and then they take over the duties of feeding the next batch laid by the queen. They gather pollen and nectar too like the honey bees and also have stings to defend their nest and queen. But numbers never get huge. The new queen mates when it emerges in late summer and then goes off to hibernate. The old queen and the workers die away with the onset of winter and the whole procedure must start again next spring.

To do with Second Class

- Go out and observe a flower bed and see if the class can tell the difference between the honey bees and the bumble bees that are visiting the flowers. Make sure they do not stand in the flight path of the bee and encourage them to observe quietly instead of screaming and panicking. Flowers to encourage bees and butterflies such as lavender, mint, wild thyme, flowering currant and broom can be planted in the school grounds.

Third Class

Robin-run-the-hedge

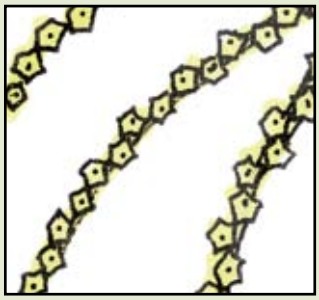
Nettle

Hawthorn

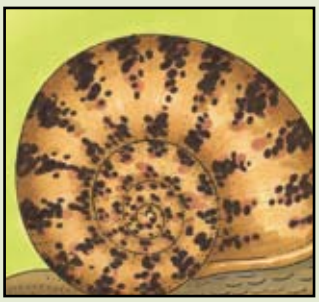
Frog

Swallow

Snail





Robin-run-the-hedge

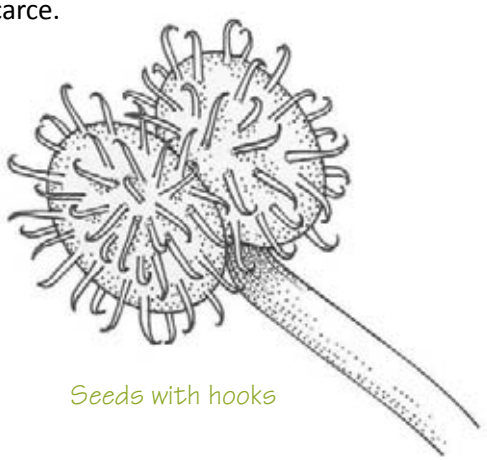
Latin name – *Galium aparine*
Irish name – *Garbhlus*

This is a very common hedgerow plant and one that children like very much when they become aware of it. It is an annual plant and grows anew from seeds shed the previous year. It springs up in April and thrives in shady places because it is able to climb up to the light. It can grow up to 2 metres high in the right conditions. It is able to do this because it is covered with minute hooks all over its stem and leaves and these allow it to stick to anything close by and climb up using it as support.

The stems carry the leaves in whorls of six to eight at regular intervals all along the stem. In June the flowers appear. These occur in tiny white clusters both at the top of the stem and at the leafy whorls along the stem. The seeds are carried in pairs of rounded green balls which occur where the flowers were. These little balls are covered in hook-like bristles that stick to anything that brushes against them. Any passing mouse, fox, bird — not to speak of humans in long trousers — gets thoroughly covered in these sticky balls which are groomed off later, thus spreading the plant.

This method of seed dispersal is particularly effective in wooded areas where there would be very little wind to disperse them. Close examination of the seeds or indeed the leaves with a magnifying glass is well worthwhile as the hooks can be seen. A Swiss naturalist — George de Mestral — did exactly that in 1948 when he noticed that these were all stuck to his clothes after a walk. He noticed the sharp hooks and decided that a fastener to rival a zip could be invented from this. After much trial and error he manufactured the hooks on a nylon strip and they connected to a soft fabric — and so Velcro was invented. The fastener was patented in 1955 — the name is a cross between crochet and velour.

The plant has many common names, goosegrass because it was fed to geese long ago, cleavers because it stuck — from the old verb to cleave — robin-run-the-hedge from the English magician Robin Goodfellow, sticky backs etc. All these folk names show how well known it was. The seeds were roasted to make “coffee” in the eighteenth century and the whole plant could be eaten — well boiled — as a form of spinach in early spring when fresh greens were scarce.

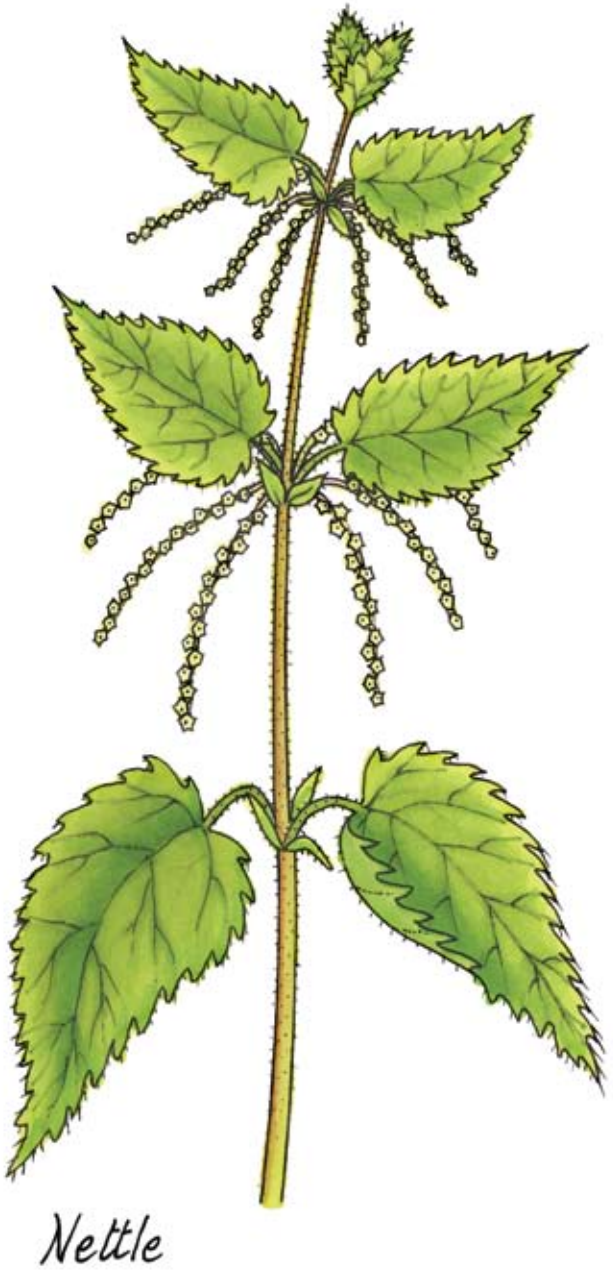

Seeds with hooks

To do with Third Class

- Bring the class out to look for robin-run-the-hedge in the hedge or in rough neglected areas. It should be there from April till the end of September. Show how it can stick to its surroundings and indeed to the pupils’ clothes. Gather the seeds when they form and plant in yoghurt pots in the window of the class and watch how quickly they grow as compared to flowers that are desired. Weeds always grow faster to get a competitive edge and this plant can be a scourge in cultivated gardens.

Nettle

Latin name – *Urtica dioica*
Irish name – *Neantóg*



To do with Third Class

- Read them the fairy tale — "The wild swans".
- Collect nettles and make nettle soup early in May. It is made exactly as spinach soup except well-washed, finely chopped young nettles are used instead. Go out and look for nettles in June or in September. Sweep a net on a long pole through them to sweep off whatever creatures are feeding on them. In June there should be lots of caterpillars, in September hordes of greenflies.

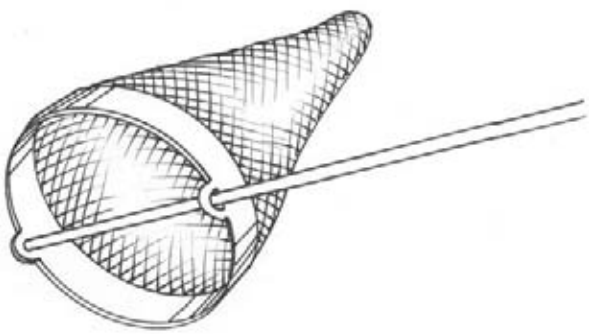
The nettle is a familiar plant to everyone — sometimes alas from the experience of getting stung by it. However it is a plant that has been highly valued in this country for hundreds of years. It first appears in early spring when the fresh green shoots are seen to emerge in ditches, hedges and waste places. It grows where the soil is rich in phosphate as it needs lots of this nutrient for growth. It can grow up to 100 cm high and can occur in dense clumps.

The leaves are opposite each other on a square stem and are covered with stinging hairs. The flowers are small and green and they hang down from the leaf axils in long spikes from June to September. There are separate male and female flowers and they are borne on different plants. There are no petals to attract insects nor indeed is there nectar to lure them in. The plant is pollinated by the wind which shakes the flowers and blows the pollen to other flowers. Seeds are formed singly and are shaken from the plants to germinate nearby, thus making the clump larger.

They are unpopular among the unwary because of their sting. This happens when they are touched lightly. The tip of the hair breaks off leaving a sharp spike that penetrates the skin and injects an irritating mixture of histamine and formic acid. It is widely believe that a dock leaf will cure the sting. Dock leaves usually grow nearby as they like soil rich in phosphate too but the relief they offer is because a large cool leaf is being applied to the stung area — a large damp tissue would give the same ease. If you grasp a nettle firmly however the hair is completely flattened and cannot sting. However, it was believed that nettle stings were good for rheumatism and inflamed joints.

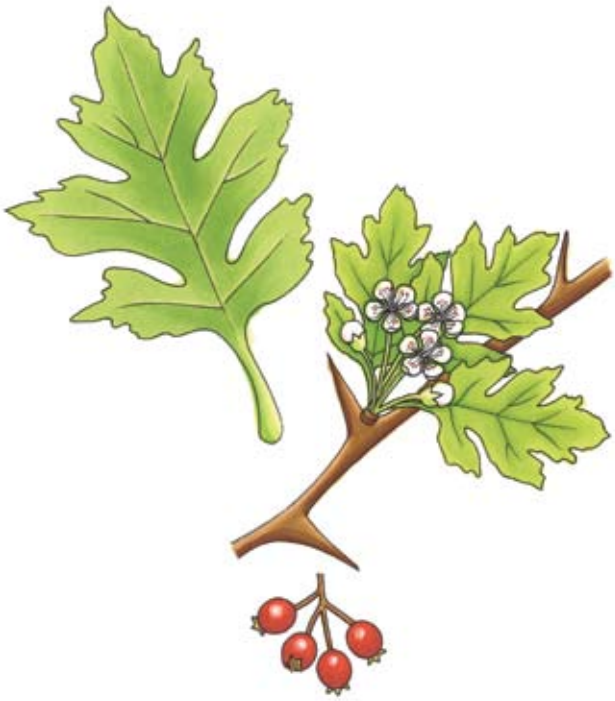
They are edible early in the year and were traditionally gathered (while wearing gloves!) to make a soup full of vitamins at a time of year when native vegetables were scarce. The stings disappear entirely in the cooking. The stalks contain strong fibre which used to be gathered, extracted and woven into cloth in Ireland since Bronze Age times. In the Hans Anderson fairy tale "The wild swans", the princess had to weave shirts from nettle fibre to restore her brothers from swans to humans.

They are wonderful food for insects as well. The caterpillars of small tortoiseshell and peacock butterflies love them as do lots of types of aphids.

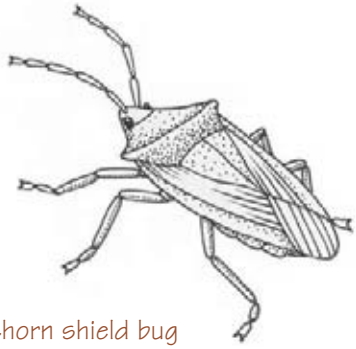


Hawthorn

Latin name – *Crataegus monogyna*
Irish name – *Sceach gheal*



Hawthorn



Hawthorn shield bug

To do with Third Class

- Read the book *Under the Hawthorn Tree* by Marita Conlon-McKenna.
- Bring the class out to find hawthorn trees in the local hedge. Study the tree throughout the year — noting when the leaves open, when the blossoms are out and what the haws are like. Gather haws and plant the stones to germinate new trees.

The hawthorn is also known as the whitethorn or the May bush. It is a native Irish tree and is found commonly in hedges all over Ireland. Leaves come on the hawthorn tree in the month of April. This is followed by bunches of creamy white, musky smelling flowers in May — the May blossom. These lovely flowers attract copious numbers of insects. The bees gather pollen and nectar from them and in doing so fertilise the flowers. By late summer the berries are beginning to form.

The berries are called haws and are bright red when ripe. Each berry contains a hard stone which is the seed. Hawthorns rely on birds to eat their berries in order that new hawthorn trees can grow. Birds, who have no teeth, must swallow the berries whole. They can digest the soft berry food surrounding the stone but the stone itself is too hard to be digested. They excrete the stone in their droppings and it then can germinate and a new hawthorn tree can grow.

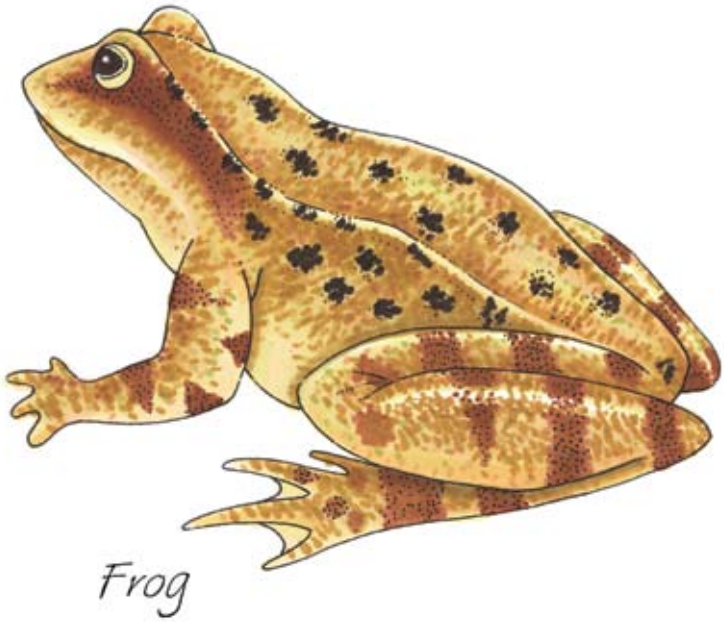
Hawthorns are small trees, which rarely grow taller than 15 metres high. Because they have thorny branches and adapt well to being trimmed and lopped, they are very frequently planted as hedge boundaries along the edges of fields. When kept trimmed and bushy they are good stock boundaries so many of our Irish fields are bounded with hawthorn hedges, and May blossom is a glorious sight at that time of year.

Hawthorn will also grow as lone trees too and there is a great deal of superstition attached to such trees. It is said that such trees were beloved of the fairies and that very bad luck would befall anyone who chopped one down. People believe this to this very day and are very reluctant to remove lone hawthorns. This bad luck also attaches itself to the flowers — it is believed that death will follow if they are brought indoors. The smell of the blossoms indoors is associated with the smell of dead tissue because actually the same chemical is present in both cases — so maybe the old wives' tale had something going for it! Hawthorn trees are also associated with holy wells. Offerings are often left on the trees and the water in the well taken for cures. Such customs go right back to pagan times two millennia ago.

Being native trees, hawthorns contain a great variety of insect life. In particular, the hawthorn shield bug is a common inhabitant and can easily be dislodged by shaking the tree into an upturned umbrella.

Frog

Latin name – *Rana temporaria*
Irish name – *Frog*
(No Irish name as frogs were introduced to Ireland around 1600)


Frog

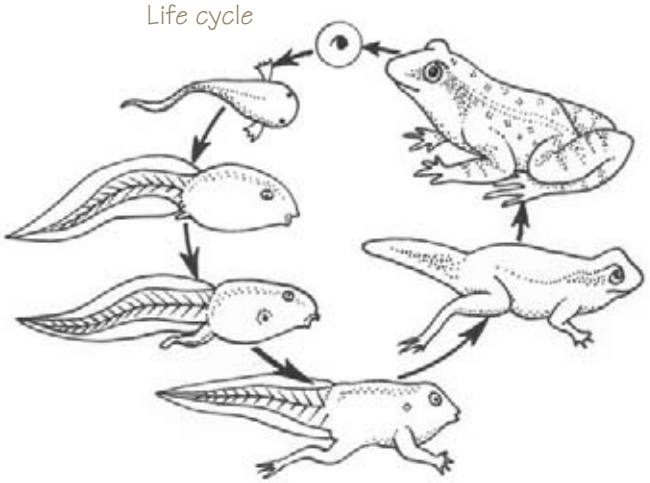
Frogs belong to the animal group amphibians. These are cold-blooded creatures that cannot control their own body temperature but are affected by environmental temperatures. Another distinguishing characteristic is that they are able to take in oxygen in two separate ways. They have lungs, which they fill with air which they inhale from the atmosphere. However when they are hibernating at the bottom of ponds in winter, they are able to absorb enough oxygen from the water through their skins to keep them going.

In February frogs wake from hibernation. Males hibernate at the bottom of ponds and females hibernate in separate quarters at the bottom of wet ditches around fields. These female frogs, upon wakening, hurry to the ponds where the males are encouraging their arrival with loud croaking. The females and males both enter the water where mating takes place. The male climbs on to the back of the female and holds her with his nuptial pad — a very well developed thumb. When she produces her eggs in a cloud into the water, he immediately squirts sperm all over them and fertilisation takes place in the water. The fertilised eggs swell up and float in a jelly-like mass called frogspawn. The couple then disengages and they go their separate ways. Frogs spend the rest of the year in wet fields and meadows and in gardens feeding on flies which they catch with their long sticky tongues. They never go back to the pond until hibernation time in October when the males return. The eggs are left to fend for themselves.

Meanwhile back in the pond, the black eggs in the transparent jelly become larger until they finally hatch out into tadpoles. These are completely aquatic creatures, with gills on their long tails and they get all their oxygen requirements from the water through these gills. They are carnivorous creatures and indeed if they are short of food will even eat each other as many the owner of a tank of frogspawn will testify. Frogs are protected under European legislation because they are scarce in Europe in general. However, they are not endangered in Ireland so a general licence has been issued to all Centres of Education in Ireland to collect and study frogspawn in class in tanks, etc., without individually having to apply for a licence to the National Parks and Wildlife Service.

Tadpoles slowly develop into small frogs, growing first their legs and then finally losing their tails. If they are kept in a tank the water must be changed regularly as a buildup of enzymes from the tadpoles prevents them from developing into frogs. They can be fed with fish food — daphnia — which is sold for goldfish. When they have all four legs and lose their tails, they will leave their watery environment and hop around grassy meadows catching food for themselves. In turn, they are food for birds such as herons.

Life cycle



To do with Third Class

- Note the date when first frogspawn is seen, to build up a series of records over the years. Bring in frogspawn to class (or into the school pond) and observe the stages of growth. Release the frogs back to the wild when fully grown.

Swallow

Latin name – *Hirundo rustica*
Irish name – *Fáinleog*

Swallows are Irish birds because they are born here in Ireland in summer. The nests are built from mud which both parents scoop up in flight as they fly over muddy ground in rural areas. They are lined with feathers which the swallows pluck from themselves. The cup-shaped nests are always built indoors in sheds and barns. (Mud nests fixed to the outsides of houses and on gables are built by a different bird — the house martin, swallows' nests are always indoors.)

The female lays three to six white eggs with red-brown speckles and they hatch after fifteen days. The nestlings are fed by both parents and are able to fly after 20 more days. They then fledge, leave the nest and don't return to it again. Swallows are carnivores. They feed on aerial insects which they catch in their large gaping mouths. They cannot eat anything else so as the days shorten after the equinox in September, they gather in colonies on telegraph wires and suddenly all fly south to Africa to spend the winter. Irish swallows spend the winter in South Africa where it is warm enough to have sufficient aerial insects to feed them. Long ago, people didn't know that they migrated to Africa in winter. When they couldn't see them flying around they were sure that they hibernated in the mud at the bottom of ponds. This of course doesn't happen.

When the days lengthen in March they set out once more for Ireland as the longer days in Ireland in summer means that they have up to eighteen hours of daylight to catch insects to feed their young — something that couldn't happen in Africa as summer days there are much shorter. Their arrival in Ireland depends on weather and prevailing winds — in 2009 the first swallows were recorded here on 16 March. But one swallow doesn't make a summer and usually the main group do not arrive until April.

There is a lot of folklore associated with swallows. Long ago there was a belief that ailments could be cured by treating them with something that resembled the ailment. Thus, because swallows twittered (rather than sang) they could be used as a treatment for stuttering and for epilepsy. This involved eating the flesh of the swallow, something we wouldn't dream of doing now as swallows are a protected species. Swallows are seen as birds of good luck. It will bring good fortune if they nest on your property. Or it is a sign of good weather if they are flying high in the sky. They are also considered specially favoured by God so it is really unlucky to kill one.

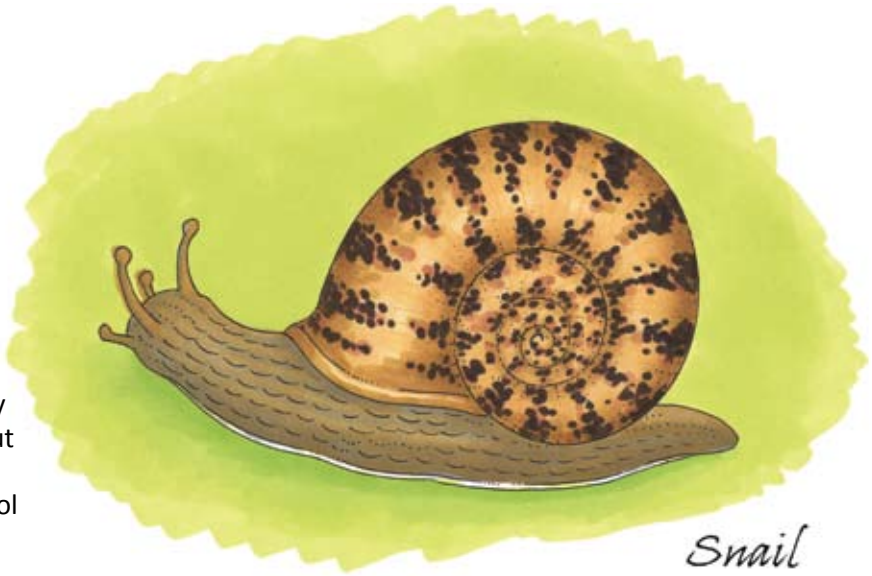

Swallow's nest

To do with Third Class

- Record the date when the first swallow is seen. Over the years this will give an indication of whether they are arriving earlier each year because of climate change. Go out in May to look for swallows flying in the sky. Ask the pupils to look inside sheds and barns to see if there are swallows nesting.

Snail

Latin name – *Helix aspersa*
Irish name – *Seilide garraí*



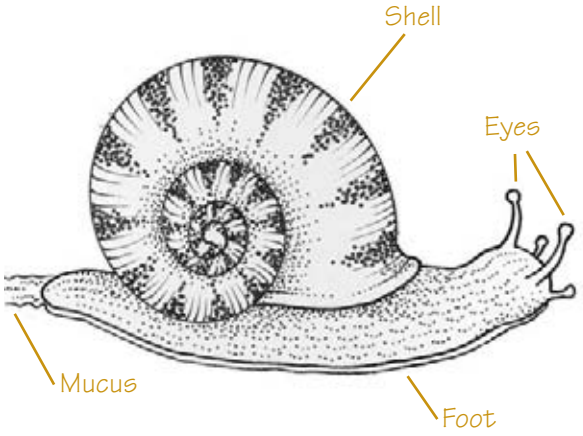
Snails belong to a group of minibeasts called Molluscs. They all carry a shell made of calcium, which is part of their body. They cannot be detached from their shell without fatal injury. A very common snail found in fields, gardens, parks, hedgerows and school grounds is the garden snail.

This is a large snail, with a shell up to 40 mm across. The shell is yellowish brown in colour with up to five spiral bands. The snail inside has a dark brown body which it can extend so that its head stretches forward, with four horns visible. The two large horns carry the snail's eyes and it is able to sense and smell with the two smaller lower horns. It secretes mucus though the flat underside of its body — known as the foot and it slides along on this mucus. It needs lots of water to keep its soft body from drying out and to manufacture enough mucus to slide along. Therefore, when the weather is hot and dry for a time the snail becomes dormant to save energy, goes right back into its shell and seals the entrance with quick-drying mucus.

It prefers warm, wet nights when it can emerge and slide around gardens and parks looking for food. Snails are herbivores and they really love to feast on small delicate garden plants such as newly planted seedlings, strawberries and courgettes. They have teeth all over their tongue — which is called a radula, and each one can do considerable damage at night in a newly-planted garden. When morning comes they hide away from danger and to protect themselves from drying out — often in communal roosts at the bottom of walls or under the overhang of window sills.

Snails are all hermaphrodite, which means that they carry both male and female organs — there are no separate males or females. However, one must meet another one to mate with, before they both go off to lay eggs. Each snail can lay up to a hundred white pearly eggs in the soil. No wonder there are so many of them during wet summers. They hibernate when winter comes, retreating into their shells and sealing off the entrance.

They are a favourite food of hedgehogs. Thrushes are able to eat them by bashing open their shells against a stone (called a thrush's anvil) and gobbling the contents. Magpies are very good at finding them and crunching them whole. The garden snail is edible for humans as long as they are kept fasting for a while before cooking so that they excrete anything they may have eaten that would be poisonous to humans — such as ivy. Poisoning them with blue pellets is very bad for the environment as birds and hedgehogs that eat snails poisoned in this way will be adversely affected. Beer on the other hand kills snails but does not affect creatures higher up on the food chain.



To do with Third Class

- Go out to the school grounds and look for snails. Search in the usual places. Mark each snail with a small dab of nail varnish. Repeat the exercise a week later and see how many of the new batch found is marked. By putting out sheets of old carpet or such like areas of cover, the chances of finding snails are increased.

Fourth Class

Lords and Ladies

Vetch

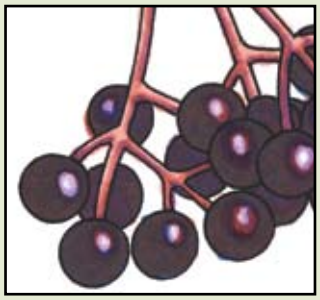
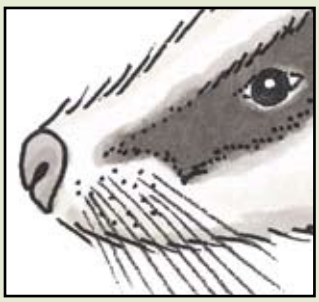
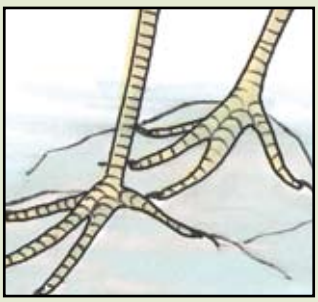
Elder

Badger

Heron

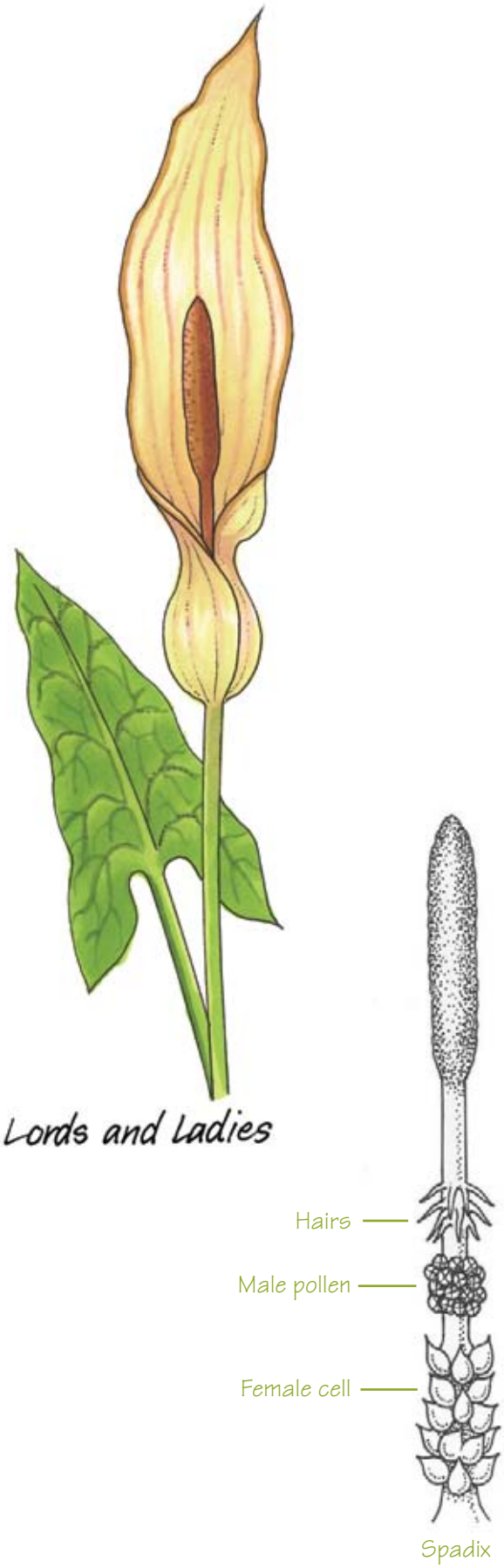
Butterfly




Lords and Ladies

Latin name – *Arum maculatum*
Irish name – *Cluas chaoin (among others)*



Lords and Ladies is one of the many names given to the arum lily — a most unusual lily-like flower that appears in our hedgerows and woodlands in April and May. Plants need light in order to grow and in woodlands the canopy of the trees captures most of the available light. So, many woodland plants flower early, before the canopy closes and Lords and Ladies is one of these.

The arrow-shaped large green leaves appear first and then these unroll to reveal a most peculiar-looking flower. It consists of a yellow hood called a spathe with a pointed fleshy swollen brown or purple stalk called a spadix inside. This spadix is the top of the complicated flower arrangement that this lily has. When ripe, the fleshy spadix, gives off a smell like rotten meat. This attracts flies which come along expecting food.

They buzz around and try to find the food which seems to them to be hidden in the depths of the spathe. Down they go into an opening that is guarded by a defence of hairs that only bend one way — downwards. Once the flies enter, they are trapped in a chamber where the top layer is of stamens containing pollen while below in the bottom of the same chamber are the female parts. These are ripe and are waiting to be fertilised — not by the pollen of their own flower, but by that of another. Eventually a fly arrives covered with pollen from a different lily. This fertilises the waiting cells. Following this the male parts produce their pollen, the guard hair cells collapse and the flies can escape — all now thoroughly dusted on the way out by the pollen of the flower in which they have been trapped.

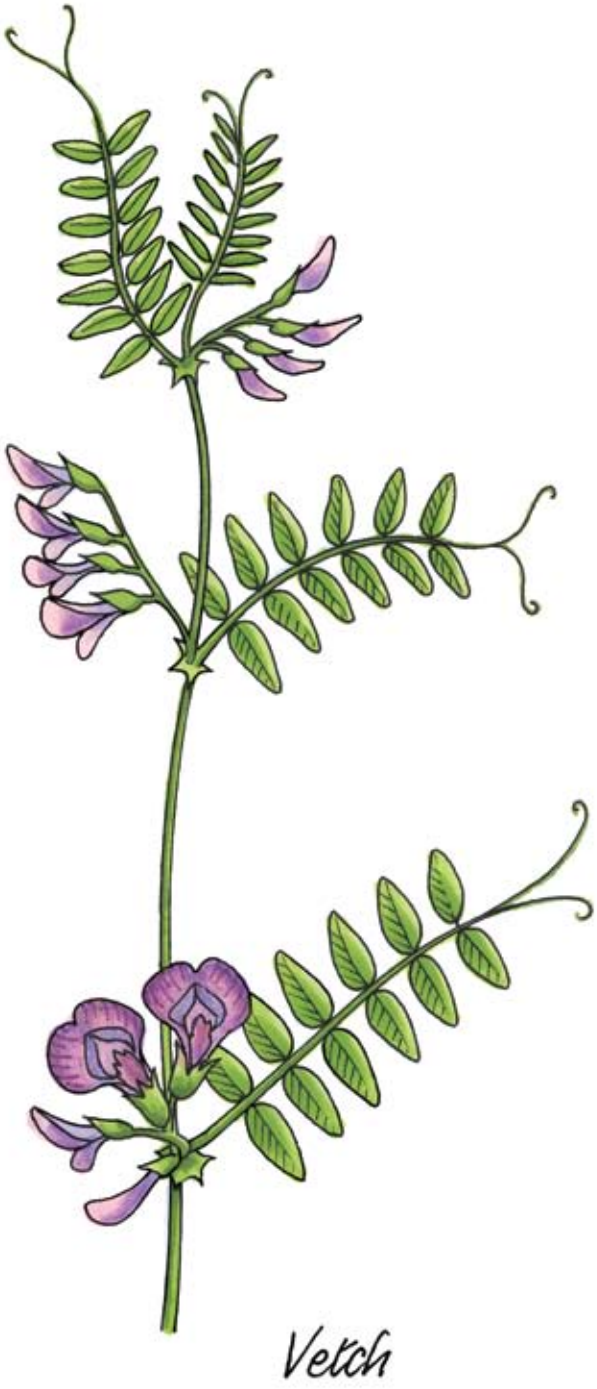
And indeed some of them enter another lily, fertilise the female cells there and so contrive the escape of the foolish flies there. The whole spathe and spadix then collapse, their purpose having been served and the fertilised female cells swell and ripen into red berries. Indeed the stalk with a cap of red berries is a familiar sight in autumn, the berries poisonous to us humans but not to the wild creatures that eat them and spread the seeds by way of their droppings. The pointed spadix reminded people of earthier things in earlier times as the names cuckoo pint or the Irish Bod Gadhair, reveal.

To do with Fourth Class

- Bring them out to the school hedge to look for these plants in late April. Check how many can smell the spadix as it is an inherited ability and not everyone can. Open the spathe to observe the hairs and the trapped flies. Look for the stalk with the red berries in autumn but do not pull it or touch it — just observe.

Vetch

Latin name – *Vicia*
Irish name – *Peasair capaill*



The vetch is also a plant that grows in shady areas. It uses a different strategy to survive in a habitat where light is restricted — it can climb up towards available light. It is a member of the pea family — the legumes. Like the sweet pea that flowers in gardens, it produces tendrils at the end of its leaves. The leaves are positioned alternately along the stem and each leaf consists of a number of opposite pairs of leaflets. At the end of each leaf however, is a set of stringy tendrils which seek for something to catch onto. In the wild hedge this is usually other plants such as brambles, or grasses. With this support, the plant is able to assist its passage upwards towards the light.

As a result, it can flower later than hedge flowers with no such support and the purple flowers of the vetch can be seen in hedges right up to the end of July. As it is a member of the pea family, the flower is typical of this family. It is described as being irregular — the petals are not symmetrical around a centre but are of different sizes and shapes and form a closed hood over the male and female parts. As a result, the flower is self-fertile and pollination occurs inside the closed flower.

The seeds are carried in pods similar to those of a pea but much smaller and these turn black when ripe. The pods then split open suddenly and the seeds inside are shot out by the force. They settle further away and a new plant can then germinate.

All members of the legume family including vetches are, unusually among plants, able to fix nitrogen directly from the air. Plants need nitrogen for growth and cell formation, and normally plants absorb it from the soil in the form of nitrate. Vetches however have nodules on their roots which are formed in conjunction with special soil dwelling bacteria and these nodules are able to absorb nitrogen in a gaseous form directly from the air around the roots. When the plants rot back into the soil after death, the nitrogen is released as nitrate and thus leguminous plants enrich the soil in which they grow for other plants. This is why gorse can grow so well on poor soil or why farmers used to plant clover — another member of the legume family — in their pastures to improve conditions for grass growth.

To do with Fourth Class

- Go out to hedges in May and June and look for this plant. Observe its tendrils holding on to other plants. Grow vegetable peas and sweet peas in the school garden or in pots in the classroom window and watch how they grow and climb.

Elder

Latin name – *Sambucus nigra*
Irish name – *Trom*
(The town of Trim in Co. Meath is Beal Atha Trom)

The elder is a very common native tree. It grows naturally in hedges and in neglected city gardens. It is a small tree, not exceeding 15 metres in stature. A deciduous tree, it gets its new leaves early in the year, usually at the start of April. These are compound leaves. Each leaf has between five and nine oval leaflets in opposite pairs with one terminal one. The lovely creamy bunches of elderflowers open in June and attract myriads of insects. In their efforts to collect nectar these insects pollinate the flowers. The bunches of purple elderberries are formed in September. These are feasted upon by many species of birds — in particular, the woodpigeon. They void the hard seeds in their droppings and these quickly germinate into new fast-growing elder trees again.

The timber of the elder tree is very soft — the centre of the twigs and branches is composed of pith, so that it does not have much value as timber. Because of its hollow twigs it is called the boo-tree or bore-tree in the Ulster Scots dialect and the word is used commonly in Co. Monaghan for elder trees.

There is a huge amount of superstition associated with this tree. It was considered to be the tree on which Judas hanged himself and so has been cursed by God. This is why the leaves smell so horribly rank (try them) and the timber lacks strength (so no one would ever hang themselves from this tree again). It would be exceedingly unlucky to use the timber when making a cradle or a boat as very bad luck would befall the occupants. It was also believed that if a child was struck with an elder stick, they wouldn't grow any more.

This bad luck did not extend to the blossoms from which beautiful sparkling white wine can be made, or to the berries which can be made into red wine. The tree itself is full of insect life all summer long and these can be easily dislodged and examined.

To do with Fourth Class

- Bring them out to find an elder tree and study it with them through the four seasons — leaf burst, leaf smell, leaf shape, blossoms, berries, bark rubbings, examination of foliage for insect life. Look for associated fungi at the base of elder trees — a jelly-like rubbery one known as *Jew's Ear* is quite common.

Badger

Latin name – *Meles meles*
Irish name – *Broc*
Many Irish place names are called after them i.e. Clonbrock, Pollbrock

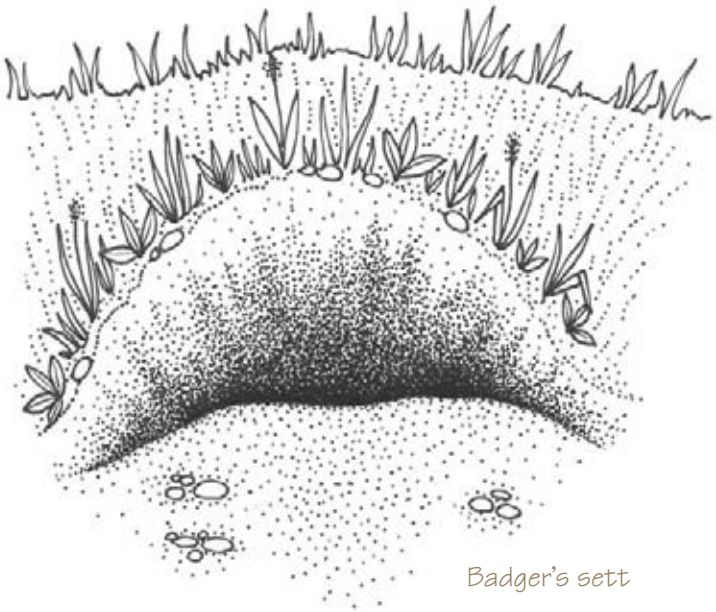
Badger

The badger is a large nocturnal mammal. It is very common in Ireland, but is rarely seen as it is nocturnal. It has a white head with a black nose and two broad black stripes running down its face. The rest of its body is grey. It is a native Irish species — earliest records are from a wedge grave at Lough Gur in Co. Limerick.

Badgers live in setts which they excavate underground. These may be very old indeed and consist of many tunnels underground with several entrances. A family group will live here and defend its territory against neighbouring badger groups. There is usually a dominant male in each group and several females. Mating takes place in April and May but because of delayed implantation of the fertilised egg the young are not born until the following February or March. Pregnant females prepare a birth chamber by removing all the old bedding and airing it up in the open air and then it is returned together with fresh material to make the new bedding material. After birth the three to five cubs stay underground for eight weeks. They then venture above ground, but their mothers will continue to nurse them for another three months. By the end of the year they are fully independent. Young males then disperse widely, whereas young females stay close to home.

Badgers are omnivores — which means that they can digest both plant and animal food. The most common item in their diet is the earthworm and they will eat up to 200 earthworms in a single night. They often dig up lawns and fields to get at the earthworms. They also eat beetles, slugs, snails, frogs, rabbits, mice, rats and hedgehogs. They are also partial to blackberries, elderberries, apples, acorns and fungi. With such a wide range of food no wonder they are so abundant. It is estimated that there are up to 250,000 badgers in Ireland.

Badgers suffer from tuberculosis, which they pick up from cattle and indeed can pass on to cattle. A vaccine to eradicate this disease in badgers is currently being developed. They are a totally protected species under Irish and European legislation, so it is completely illegal to hunt them, trap them, block up their setts or interfere with them in any way.



Badger's sett

To do with Fourth Class

- Contact the local wildlife ranger for the county and ask where the nearest badger sett is. Bring the class on a visit to see this. (Local knowledge may also provide this information.)

Heron

Latin name – *Ardea cinerea*
Irish name – *Corr réisc*
(also Máire Fhada, Nóra na bportach, Síle an phortaigh)

The heron is Ireland's tallest bird. Standing up to 98 cm tall, it waits patiently all day in areas of fresh water, waiting for a fish to pass so that it can pounce on it for a meal. It has a long, yellow bill; long, narrow legs and a grey and white body with black wing tips. In flight it is unmistakeable as it flies with its head drawn back and its long legs trailing behind.

Remarkably, for a bird that stands all day by shallow water, it builds its nest at the top of a tall tree in a colony called a heronry. There are usually less than fifty nests per colony, made from sticks or reeds by the female and three to five light blue eggs are laid. After 25 days incubation the young are fed by both parents with fish, beetles, frogs and rats. One parent always stays on guard while the other is away feeding and catching food for the young.

They are not able to swim so they must stand patiently until an unwary fish swims over their feet. If the fish is small they can swallow it whole, taking care of course to swallow it head first so that the scales do not get stuck in its throat. If the fish is too large for this, they will kill it with repeated stabs of the beak and then bring it to the bank to pick off the flesh. They are one of very few creatures to eat frogs, as most creatures find them distasteful. Even the heron doesn't like the ovaries of the female frog and will cough these up on the bank where they swell most amazingly in the rain and present a mystery to nature watchers who find them and are not in the know.

Herons were very familiar in Ireland long ago as was a larger wading bird — the Crane — which is now extinct here because of habitat destruction. So our grey heron is sometimes called the crane as it resembles this earlier bird. The wealth of names in Irish that exist for it show how well known it was (place names such as Corlough mean the lake of the heron). It was thought that a heron flying south is a sign of good weather.

To do with Fourth Class

- Make out a food chain — or indeed a meal menu for a heron. As there are up to 10,000 breeding pairs in Ireland an expedition to a river/lake/wetland/town park with pond should bring a sighting.
- Use the internet to look up the delightful poem — "The herons on Bo Island" — which could then be learned as part of a poetry anthology.

Butterfly

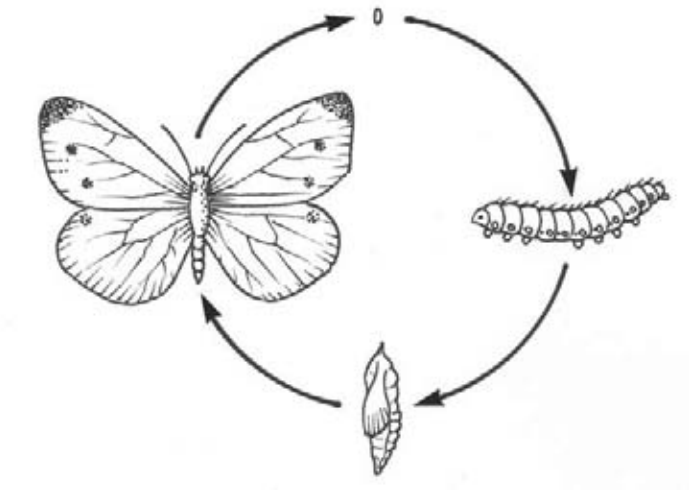
Latin name – *Aglais urticae*
Irish name – *Ruán beag* (Small tortoiseshell)


Tortoiseshell Butterfly

Butterflies are members of a group of insects known as Lepidoptera — which means wings with scales. There are 32 species in Ireland — some very common indeed. The colourful adults fly during periods of sunshine in summer. They meet members of the opposite sex, mate and then the females lay their eggs on very specific food plants. For example, the cabbage white will lay its eggs on cabbages, the small tortoiseshell and the peacock will lay their eggs on nettles.

The eggs hatch out into caterpillars which feed voraciously on the food plant. As they have all their soft parts on the inside surrounded by a tough skin, they must burst this skin in order to grow. Each time they burst, the new, bigger, caterpillar emerges with a hairier, spikier skin. By the time they have burst for the fourth time they are very spiny indeed and are distasteful to birds.

These "hairy mollies" then crawl away from the food plant to spin a chrysalis around themselves and change into a fully formed butterfly. Wings and reproductive parts are formed. The newly-formed butterfly emerges from the chrysalis with four beautiful wings, six legs, two antennae on top of its head and a long tongue, which is normally coiled up, and which it extends to take a sip of nectar when it visits flowers. All the energy they need as an adult, they got while feeding as a caterpillar so they will never eat again — the adult butterfly has no intestines and never excretes again.


Life cycle of the small white butterfly

These adults then fly around looking for a partner with which to mate. Once this has happened and the female has laid the eggs, both adults will die and the cycle continues through the eggs. Adult butterflies can live for several weeks in Ireland but the larger species in tropical areas, who expend much more energy in flight, might only live for one day as a beautiful, glorious adult.

Irish butterflies hibernate during the winter. Mostly, they hibernate in the chrysalis stage. However, the rare brown hairstreak overwinters as an egg, while the common small tortoiseshell comes indoors as an adult just when it emerges from its chrysalis in autumn. It hibernates in corners, in curtains, in the hot press — anywhere in fact it feels that it will not be disturbed.

Butterflies are eaten by birds, who catch them and strip off their wings and by spiders if they blunder into their webs.

To do with Fourth Class

- Rear butterflies in class. Collect the eggs or caterpillars of cabbage white butterflies from cabbage plants in the garden. Put them with the cabbage leaves into an empty fish tank or some such and cover. Change the leaves and clean out the droppings as required. Watch the eggs hatching and the caterpillar's bursts, then put in a few sticks so that they can climb up and pupate. Do let them go when they finally turn into butterflies.

Fifth Class

Poppy

Speedwell

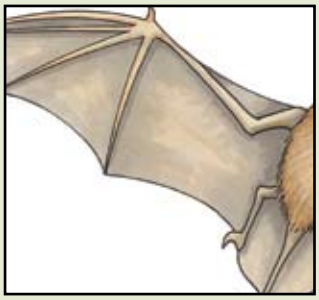
Hazel

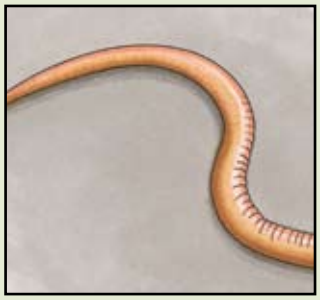
Bat

Kestrel

Earthworm

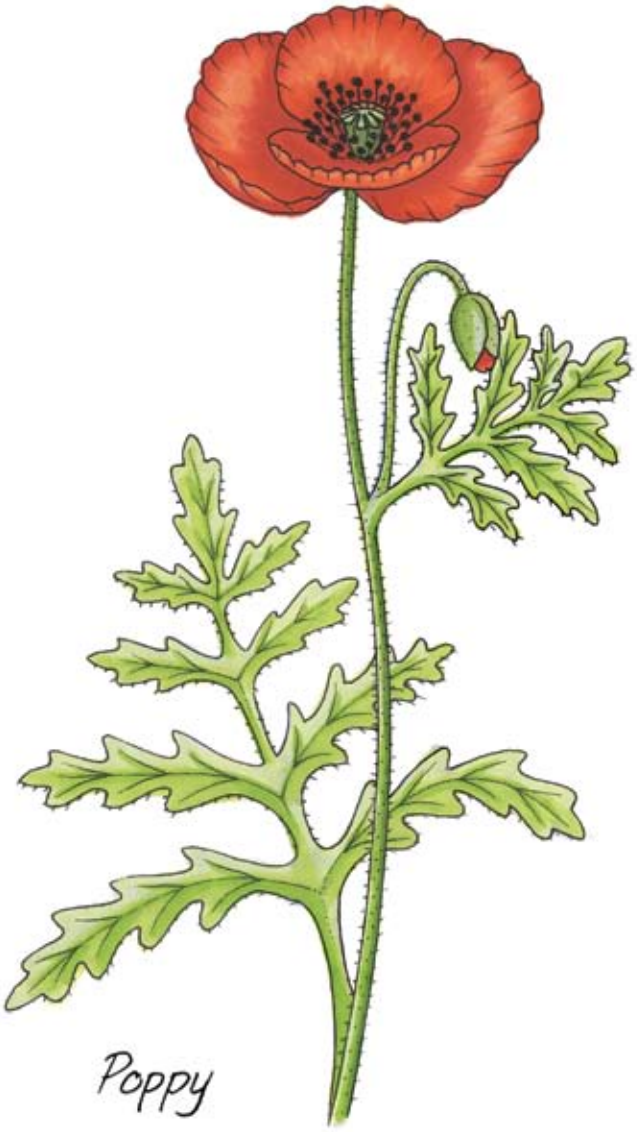




Poppy

Latin name – *Papaver rhoeas*
Irish name – *Caithleach dearg*



The poppy is a large, red wild flower that grows where soil has been disturbed. It flourishes along the sides of motorways for a year or two when the motorway is new, before other plants become established. It was a common weed of grain fields, as the seeds germinated when the soil was ploughed to plant the grain. Careful management of grain crops and spraying with selective weed killers has meant the cornfield full of poppies is no longer a common sight in the cereal-growing regions of rural Ireland.

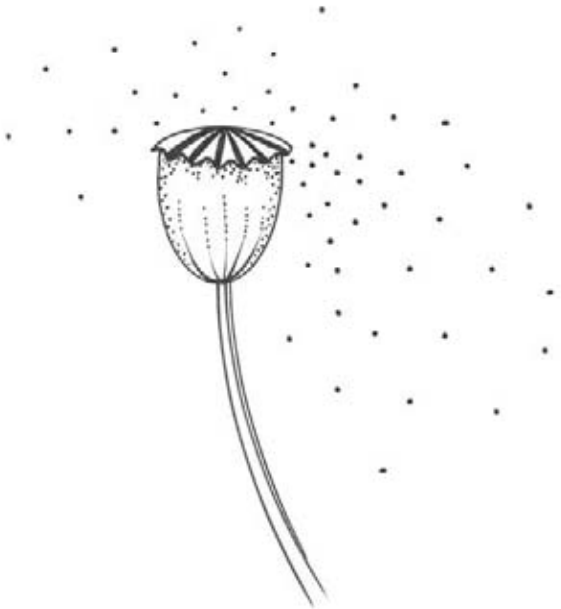
The poppy flowers from June till August. It carries a red flower and red flowers are really uncommon among naturally occurring wild flowers — hence their popularity with gardeners. The colour red signals danger and the poppy itself carries substances which makes its leaves unpalatable to herbivorous insects. The colour thus acts as warning to keep away. The plant carries its flower in a green bud formed by two closed sepals. The four red petals emerge from this and the green sepals immediately fall off when the flower opens. It thus seems that the flower has four petals and no sepals. The seeds are carried in a grey-brown cannister-like capsule with holes near the top, through which the seeds are shaken by the wind for distribution.

Because the seeds of the poppy can lie dormant in the soil for up to 40 years, a crop of red poppies grows when the soil is dug up after a long period of undisturbed grassland. So when, during the First World War the numerous casualties were buried in plots newly-dug for graves, the poppies flowered because the soil was now disturbed. “In Flanders fields the poppies blow, /Between the crosses, row on row”. So the poppy as a remembrance of the horror of war was in the first place an ecological consequence.

The opium poppy is a different plant — it has purple petals. It is a native of Turkey and was grown originally in Ireland since the Bronze Age because it contains the narcotic and sedative opium. It is no longer cultivated here for this purpose but the odd wild plant still grows on sandy soils in the central part of the east coast.

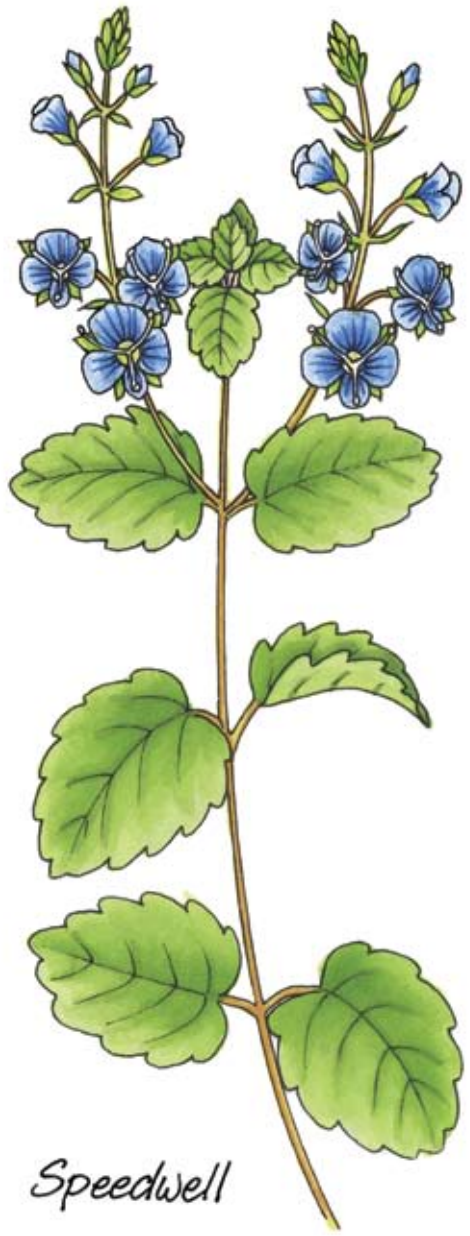
To do with Fifth Class

- Discuss with the class where poppies might occur in the local area. Where is there recently opened ground — roadside, field, building site, waste ground? Bring the class out to look for poppies following this brainstorming session. Try digging a piece of the school field or lawn which hasn’t been disturbed for years and see what plants germinate and grow in the disturbed soil. If this is done in mid-May the new plants will be up before the school holidays at the end of June.



Speedwell

Latin name – *Veronica chamaedrys*
Irish name – *Lus cré*



The speedwell is a very common bright blue flower that occurs in unmowed parts of the school lawn or the school field. There are quite a few Irish species of speedwell but one of the most obvious ones is the one illustrated here– the germander speedwell. It is a perennial plant, which means that it grows up each year in spring and summer, dies back in autumn and re-appears the following year without having to be re-sown.

It is a low, straggling plant — reaching 50 cm at maximum length and often much lower than this. The stems are often reddish brown and have two distinct lines of hairs. The leaves are oval with a toothed edge. It is the flowers that attract the eye. These can appear as early as April and the plants flower all summer long until September. The pretty flowers are bright blue in colour and can be up to 12 mm across. There are four petals — three the same size and one slightly smaller. There are two stamens displayed prominently and the pollen is formed in the white anthers at the ends. The petals are all joined together at the base and if one is pulled they all come off together in a crown with the stamens attached. Examined carefully, the female part can be seen sticking up from the centre of the flower. Later in the year seeds will form in a flattened capsule on the stem.

Pupils in school will be familiar with the rosette-leafed flowers of the school lawn such as daisies, dandelions and ribwort since their junior classes. They now must seek out a flower that grows there under slightly different management conditions and realise that the very technique of mowing determines what wild flowers will exist in an area of grassland. A good diversity of wild flowers is important so that there is a good biodiversity of insect life as well. Thus, by leaving perhaps just a small area unmown, the variety of flowers in the school's grassy areas can be increased enormously.

This plant was familiar to Irish people in olden times and it was important in folk medicine. It was used by nursing mothers to soothe sore breasts. It was boiled with other herbs and the resultant liquor fed to cows with calves to protect them from ill luck and it was traditionally sewn into the garments of people going on a journey to protect them from accidents.

To do with Fifth Class

- Observing, noticing, describing are all important skills that scientists must have. Having spoken about this plant in class, send out the pupils to find and bring in specimens. They must then write a scientific description of their plant with reference to flowers, petals, stamens, stem, hairs, leaves, where found and perhaps why. Writing this description requires that the pupils examine the plant for the scientific detail required. Use of a magnifying glass may be helpful.

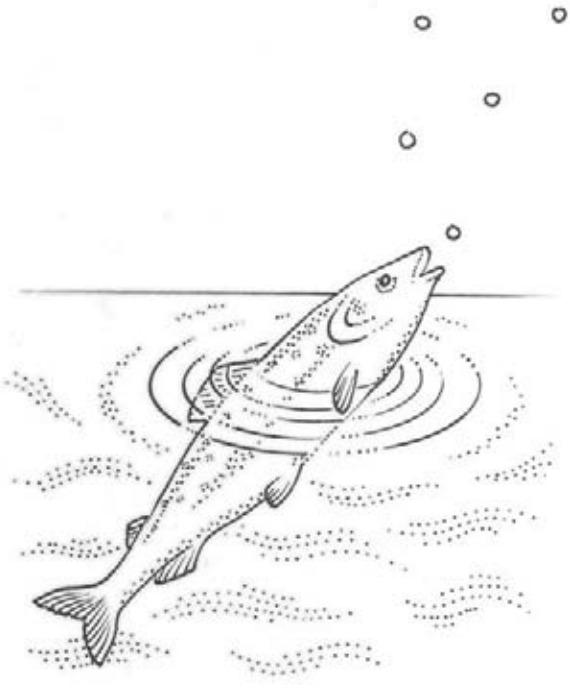
Hazel

Latin name – *Corylus avellana*
Irish name – *Coll*

Many Irish place names such as Collon are called after the hazel tree.

The hazel tree is the tree of wisdom. It is a native Irish tree and grows particularly in limestone soils. It is a low tree with a trunk consisting of many stems. Very early in the year, in February and March, before the leaves come on the tree, the catkins appear on the twigs. These are the flowers of the tree and they are wind-pollinated. There are two sorts of catkins. The male ones are long and pendulous and contain lots of pollen. The pollen is blown by the wind to the female catkins which have no stalks and are very small and budlike.

The leaves burst open in April and are particularly soft and downy. In August the hazel nuts are formed and they are ripe by early September. They are a great source of food for a variety of animals and birds such as squirrels, mice, jays and rooks. Squirrels hide them away to eat later on in winter, but if any are dropped they will germinate into new hazel trees.



The Salmon of Knowledge

Tradition has it that the hazel is the tree of wisdom and that the Salmon of Knowledge got his wisdom from eating the nuts that fell into the water from the hazel trees that grew on the banks of the River Boyne. Certainly the hazel tree was one of the most useful trees for householders long ago. Apart from eating the nuts as food, they used small forked branches — known as scoilbs — to hold down the thatch on a roof. These would have to be repaired from time to time hence the seanfhocail "ní hé lá na gaoithe lá na scoilbe". Larger forked branches are used to this day to divine water.

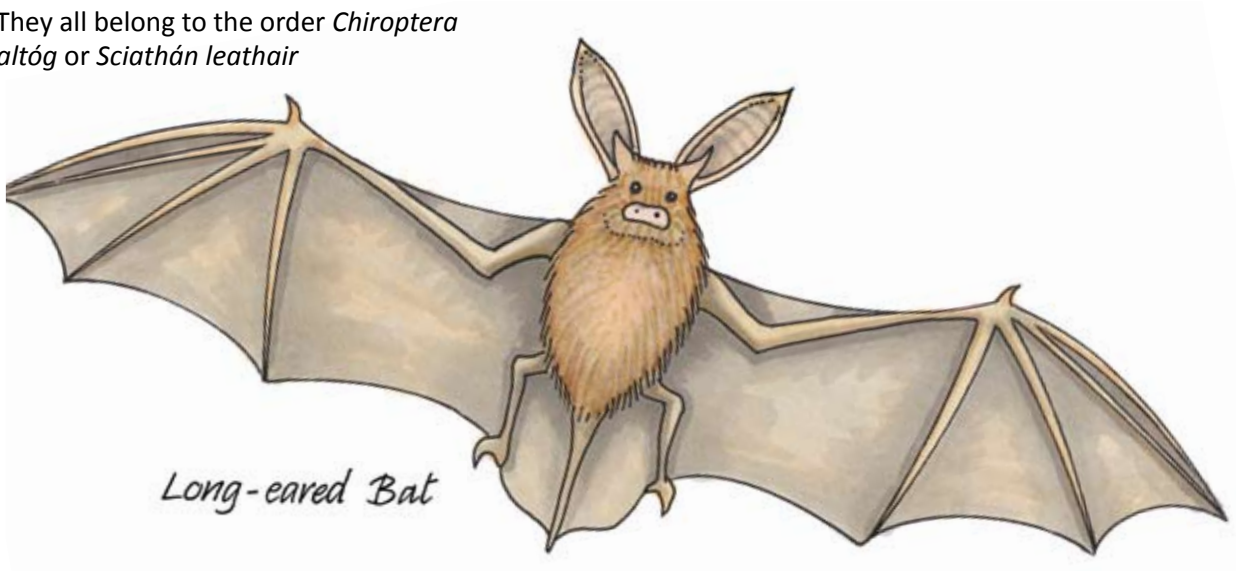
The straight poles formed by the many stemmed trunks were very valuable for building walls, they were woven together and plastered with clay plaster — clay and wattle walls. To be sure of a continual supply of such hazel rods, the trees were coppiced — which means cut across the stems so that new poles would grow. In such a way the life of a hazel wood could be prolonged indefinitely.

To do with Fifth Class

- Find a hazel tree in the vicinity of the school which can be studied throughout the year — catkins, leaves, nuts, buds, bark etc. If there are no hazel trees, one should be acquired for the school grounds and planted and cared for.

Bat

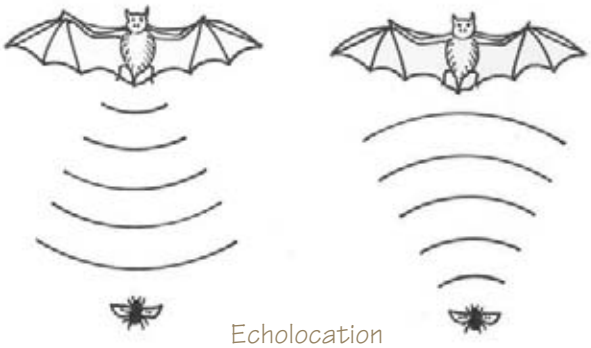
Latin name – They all belong to the order *Chiroptera*
Irish name – *Ialtóg* or *Sciathán leathair*



Bats are a much maligned group of mammals. They are not blind. They will not fly into your hair. They will not suck your blood. They are not in league with the devil. Because they can fly so expertly at night without crashing into things, it was thought that they must be in league with the forces of darkness. Science, of course, has revealed the true picture.

Bats are not blind; they are perfectly well able to see. However as they fly at night and catch aerial prey, they have a special means of detecting this flying prey — echolocation. They emit very high-pitched sound waves which bounce off whatever object they hit and are reflected back to the bat at a slower speed. This is translated as a drop in sound frequency, so the bat can build up a picture of where all the objects are in front of it. These high pitched sounds are above our hearing range (30–140 kHz) although children can hear some of them, as they can hear higher sounds than adults.

Bats catch insects that fly at night. They are particularly fond of moths, midges and mosquitoes. A small pipistrele bat can catch up to 3000 midges of a night. Each species emits a particular type of ultrasound that allows them to specialise in particular types and sizes of insects so that several species can co-exist in the same area.



Echolocation

In Ireland we have ten different bat species — all of which are highly protected under Irish and European law. Ireland holds the largest European populations of the Lesser Horseshoe Bat — a bat that only occurs in limestone areas in Mayo, Galway, Clare, Kerry and Cork. Other species such as the Pipistreles and the Long-eared Bat are widely distributed over the whole country.

Bats go into hibernation in caves or in hollow trees from mid-November till the end of March because there is no insect food available for them to feed on. During hibernation their body temperature drops to as low as 5 degrees Celsius from a normal summer high of 35 to 40 degrees. They need a lot of energy to raise up their temperature again, so if their hibernating roosts are disturbed they may not have enough energy to survive the rest of the winter. In April they wake and move to summer roosts in roof spaces and attics and here their young are born in June or July — one baby per female. These remain in the nursery roost while the mother is out hunting at night and she returns to suckle them. By three weeks of age they can fly and by six weeks they can hunt independently. By the end of August they are weaned. They can live for up to fifteen years.

To do with Fifth Class

- Using school books on mammals, the school or local library or indeed the internet, find out the names of all ten bat species that occur in Ireland. Invite an expert into school under the Heritage in School scheme to demonstrate bat detectors. Erect bat boxes in the school grounds. These will provide summer roosts for bats and should be placed high on trees in a hedge or wooded area. A bat box has a slit for an opening rather than a hole as in a bird box.

Kestrel

Latin name – *Falco tinnunculus*
Irish name – *Pocaire gaoithe*

The kestrel is our most common and abundant bird of prey. It flies by day and is very easy to see and identify. It hovers in the air with fast-beating wings surveying the ground below for prey. It has really good vision and when it spots a large insect or a mouse, a pygmy shrew or indeed — in Counties Tipperary and Limerick — a white-toothed shrew — it drops like a stone on the unsuspecting prey. It hovers quite a lot looking for prey so it is easy to see high up in the air. No other Irish bird of prey behaves like this.

Modern road development has actually resulted in an increase in kestrels. This is because the roadside verges and roundabouts are habitat for the rodents and the shrews that it feeds on. These areas are not disturbed by humans, and are mowed infrequently and the kestrels of course are not at all disturbed by traffic. Thus, any journey along a motorway will yield at least one sighting of a kestrel.

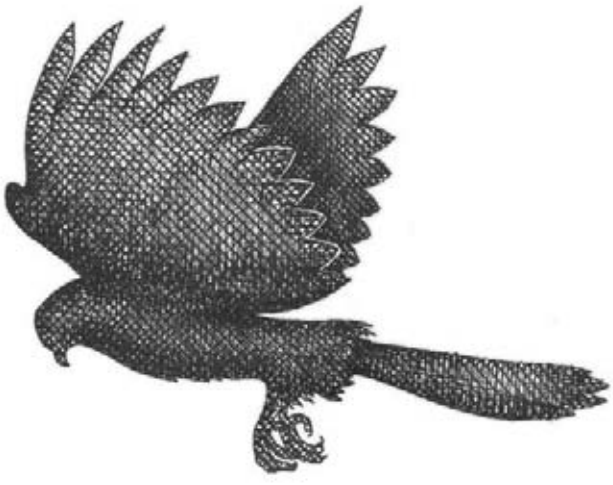
They do not build a nest of their own but the female will lay three to five eggs on a cliff ledge, a high building or indeed an abandoned nest of a hooded crow. The nestlings are fed by both parents and fledge 30 days after hatching. Males and females are different in colour — males have a grey head and a grey tail, whereas females have a streaked brown head and dark stripes on a brown tail.

Birds of prey gobble their food whole and later (usually at the roost site), cough up undigested bits in the form of a pellet. By collecting these pellets and analysing them, scientists can work out what food the bird has been eating. Recent work on kestrel pellets in Co. Tipperary revealed that the birds had been eating white-toothed shrews — a species not known until then to occur in Ireland. The nearest record until then of these shrews had been Alderney in the Channel Islands.

Kestrels were often kept near dovecotes in medieval times as it was known they kept away sparrowhawks but would not attack the doves themselves.

To do with Fifth Class

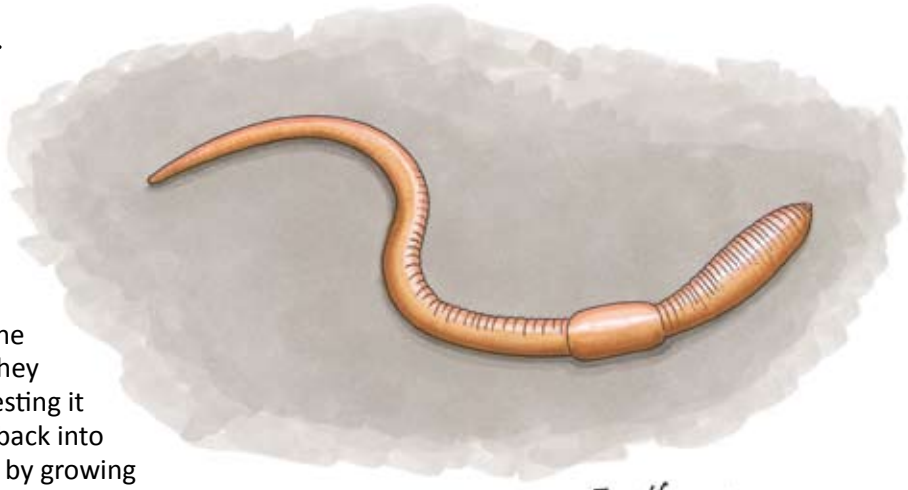
- A project on the Irish birds of prey — kestrel, sparrowhawk, merlin, peregrine falcon, buzzard, hen harrier and marsh harrier — and the re-introduced golden eagle, red kite and sea eagle. Their importance at the top of the food chain should be emphasised. If their prey is poisoned then the poisons spread right up the food chain, harming those at the top. So a healthy population of kestrels means that the whole biodiversity of its food chain is in place.



Hovering kestrel

Earthworm

Latin name – *Lumbricus terrestris*
Irish name – *Péist talún*



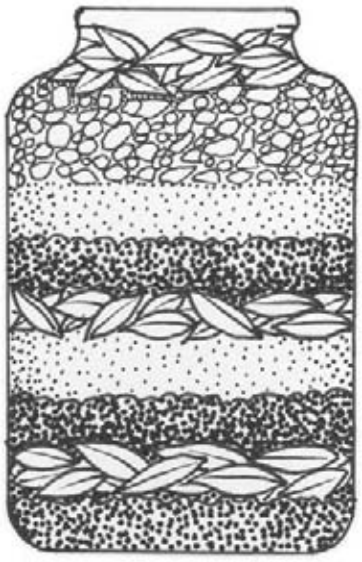
Earthworm

The earthworm is one of our most valuable creepy-crawlies. They live in the soil and feed on dead plant material. They recycle this dead plant material by digesting it and returning the nutrients contained back into the soil in a form that can be absorbed by growing plants. As they tunnel through the soil, they form small tunnels which aerate and drain the soil and add to its fertility. Farming and gardening would be next to impossible without earthworms.

The common earthworm is 30 cm long and is pink in colour. Its body is composed of segments — up to 150 of them and it has stiff hairs called chaetae on the underside of its body which help it to move. They have no eyes so they cannot see, which doesn't matter as they live surrounded by soil which contains their food. They swallow soil through their mouth and as it passes through their body they digest any organic material in it. The undigested soil itself passes through their body and is deposited as a worm cast.

On warm nights worms will come up to the surface of the soil and pull down dead leaves into their burrows for digestion. They will also often use the opportunity to find another worm with which to mate. As worms are very abundant in Irish soils this does not present too much of a difficulty although each worm makes sure to keep its tail in its own burrow so that it can conduct a speedy retreat if danger threatens. Like snails and slugs, worms are hermaphrodites — each has male and female organs — but they must mate and exchange sperm before each can lay eggs. During cold winter months worms burrow deeply into the ground and become dormant.

They are food for many creatures higher up the food chain. Birds such as thrushes and blackbirds love them, they form up to 40% of the diet of badgers, and rooks and jackdaws are expert at finding them in grassy fields. It is not true that if you cut a worm in half you will have two worms. Worms have a head with a rudimentary nervous system and seven hearts at one end and just a tail at the other. If you cut one in half you have a live, foreshortened worm and a wriggling tail that soon stops wriggling as the nerve endings die. So this cruel practice should not be carried out. Earthworms work in compost bins, but another species, the tiger worm (brandling worm) is even more effective.



Wormery

To do with Fifth Class

- Set up a wormery. Get a large transparent jar such as a large sweet jar. Make layers in it of soil, leaves, soil, sand, leaves, soil, sand, a white chalk layer perhaps, right up to the top. Put a final layer of leaves on top. Dampen the whole. Put in some earthworms and close the jar. Cover with black plastic to exclude light and leave for a week. When uncovered the tunnels of the earthworms may be seen. Do not leave uncovered however, as earthworms will move into the centre away from the light. Keep dampened and uncover every few days or so, to see how the layers get mixed up as the worms move about.

Sixth Class

Herb Robert

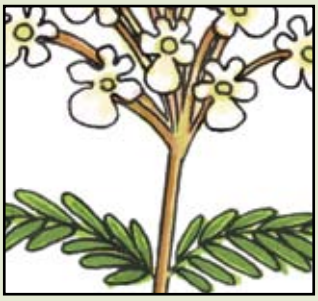
Cow Parsley

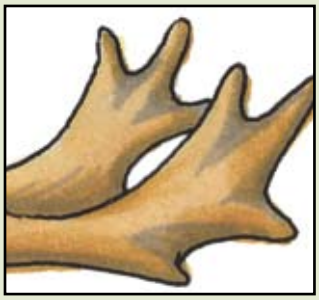
Birch

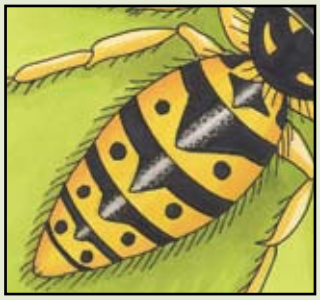
Deer

Crows

Wasp

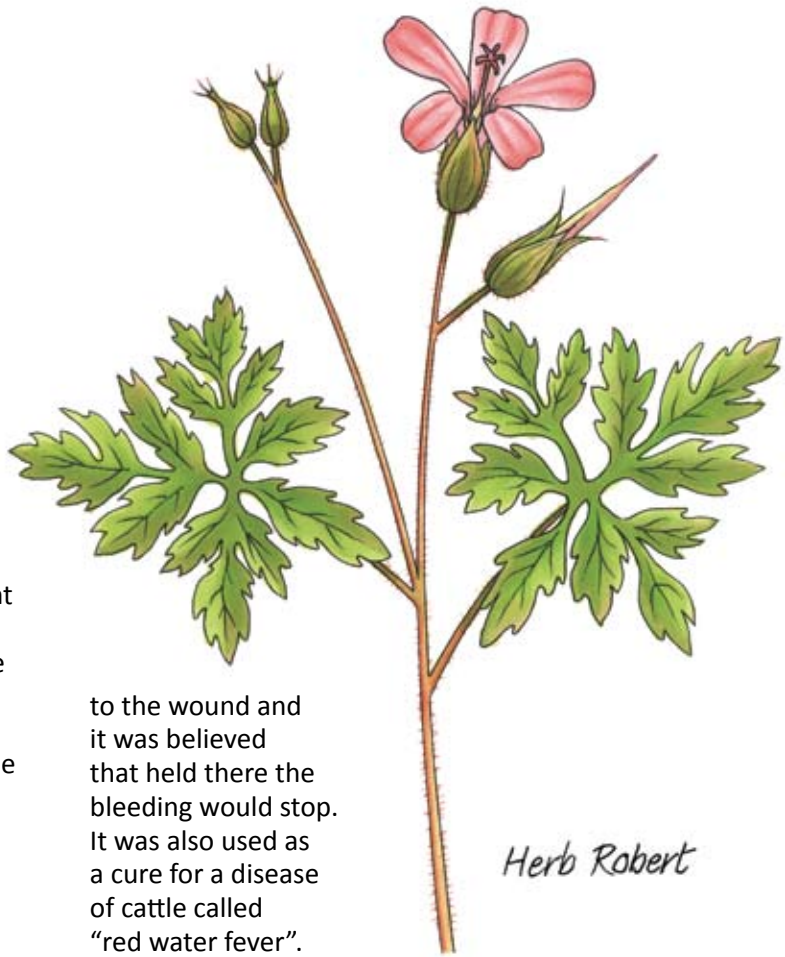







Herb Robert

Latin name – *Geranium robertianum*
Irish name – *Ruitheal Rí*


Herb Robert

Herb Robert is a pinkish flower that grows in well-established hedges or at the edges of a deciduous woodland. It has five pinkish-purple petals which emerge in May and the plant continues to flower right through to the end of September. The flowers are borne in pairs and the whole plant has a pungent smell not unlike that of a fox. It is a member of the Geranium or Cranesbill family. It is so called because its seeds reminded viewers of the sharp pointed bill of a crane. Held upright it actually resembles a birthday candle in a holder that might be about to be inserted into a birthday cake. The leaves are three-lobed on long straggling stems and they turn bright red in autumn.

Where does the name "Herb Robert" come from? Who was Robert? Tradition has it that the name was brought to Ireland by the Normans (although the plant was always a native here, established in woody places ever since the woods developed after the Ice Age). The Normans would have been familiar with stories of a powerful wizard in English folklore called Robin Goodfellow and as the name Robin is a diminutive of Robert, this plant was obviously one used by the said magician for his spells. In Ireland the plant was widely used to staunch bleeding, especially in the east of the country. The leaves were applied to the wound and it was believed that held there the bleeding would stop. It was also used as a cure for a disease of cattle called "red water fever". Obviously it was believed that there was a connection between the fiery red leaves of the plant in autumn and blood.

This plant is part of the plant community that grows in hedges and woodland edges. It is able to tolerate the lower intensities of light that occur here because of shading when the canopy of deciduous trees gets its leaves. It should be easily found on any field trip to a hedge or woodland area in June or September.


Robin Goodfellow

To do with Sixth Class

- Bring the class on a fieldtrip to a local hedge or woodland to look for all the plants that they have learned during their eight years in school. Herb Robert will be an easily recognised member of the flora seen.

Cow Parsley

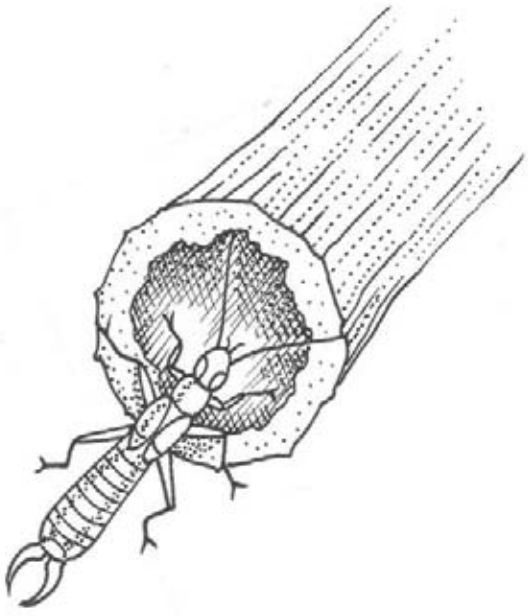
Latin name – *Anthriscus sylvestris*
Irish name – *Peirsil Bhó*

This flower turns the roadside verges white during May and early June. It is a member of the Umbelliferae family, which means that the flowers are carried on flower heads that resemble small umbrellas. Each individual flower is very small. It has five tiny petals — the whole flower is only 2 mm across. They are carried in clusters 6 cm across at the ends of the large umbrella-shaped rays of the plant which itself can be up to a metre tall. The stems are furrowed and hollow. The leaves are finely divided and appear before the flowers. At this early stage it is quite possible to mistake them for ferns but of course they have no spores on the backs of the leaves as ferns do.

They are called cow parsley because of their finely divided leaves, but in Co. Tipperary they are known by the old name of "Queen Anne's lace" because of the exquisiteness of the flower heads. The plant emits a spicy odour when crushed. It is attractive to insects as it contains nectar and if the flower heads are examined, flies can be seen sipping the nectar.

The flowers die back in July but the long withered hollow stalks can remain all winter. If examined and opened at this time you may find that they are providing hibernation quarters for earwigs or other insect larvae. They contribute greatly to the wildlife biodiversity of the hedge verge.

Unbellifers — the family group to which cow parsley belongs — are a large group which contain poisonous members such as hemlock (which is fatal if eaten). The cow parsley was confused with this fatal plant or perhaps it was considered wise to give all such shaped plants a wide berth, because it was said that picking cow parsley and bringing it into the house would cause the death of one's mother. That would discourage such a practice right enough.

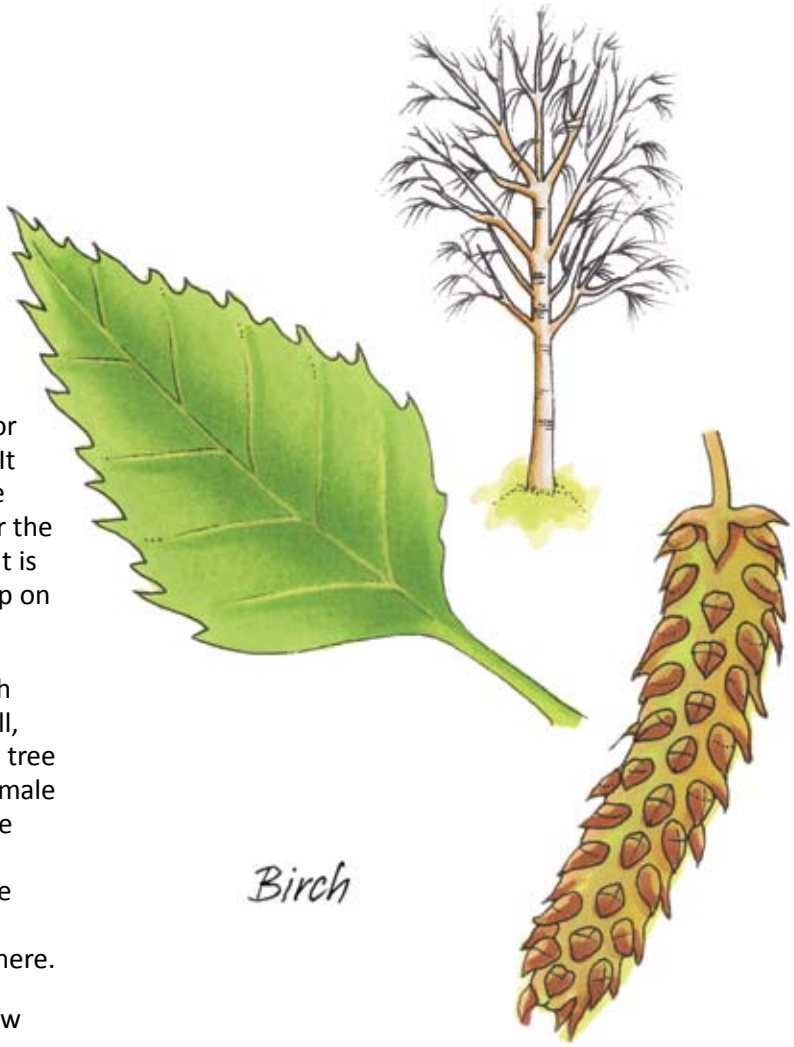


To do with Sixth Class

- Make sure that the class is brought out on a fieldtrip to a hedge during May and early June when this plant is in flower. Pupils should become familiar with its flowers and leaves so that they do not mix it up with other flowers of the same family. The flower heads should be examined for insects and pooters used to collect any that might be sitting on them.

Birch

Latin name – *Betula pendula*
Irish name – *Beith gheal*



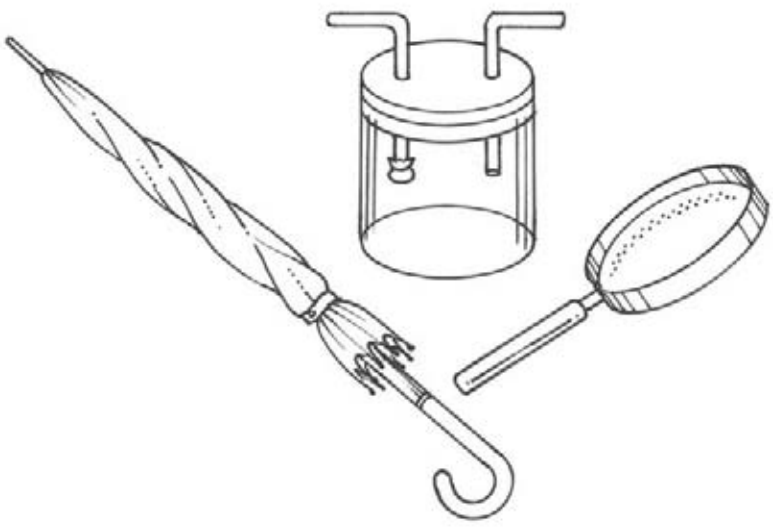
The silver birch is a tall, elegant tree, renowned for its beauty and known as "the lady of the wood". It is a native Irish tree, being here since after the Ice Age. In fact as forests came back into Ireland after the ice had cleared, the first coloniser was the birch. It is able to grow in open ground and can grow high up on mountains, right up to the tree line.

It has a very pale cream-coloured bark from which it gets its name — silver birch. The leaves are small, toothed and triangular in shape. They open on the tree towards the end of April. Its flowers are catkins — male and female catkins are separate and these emerge with the leaves. The female catkins are pollinated by the wind which blows the pollen from the male catkins to them. The seeds are very small and are blown by the wind to re-seed and colonise elsewhere.

The bark of the silver birch peels. It can thus renew itself and get rid of any pollution that may have attached itself to it. Because of this and because it is a pioneer tree that can withstand harsh conditions, it is commonly planted on the streets of towns and villages where its beauty enhances the whole area.

It is also commonly seen on the margins of bogs, lakes and rivers and it can grow on poorer soil than other native species can. It is the first to colonise an open area. The leaves which fall from it in autumn decompose and nourish the soil making it suitable for other forest trees such as oak which will replace it over time if left undisturbed.

A common tree — its Irish name beith is found in quite a few place names such as Ballybay in Monaghan and Glenbeigh in Co. Kerry.

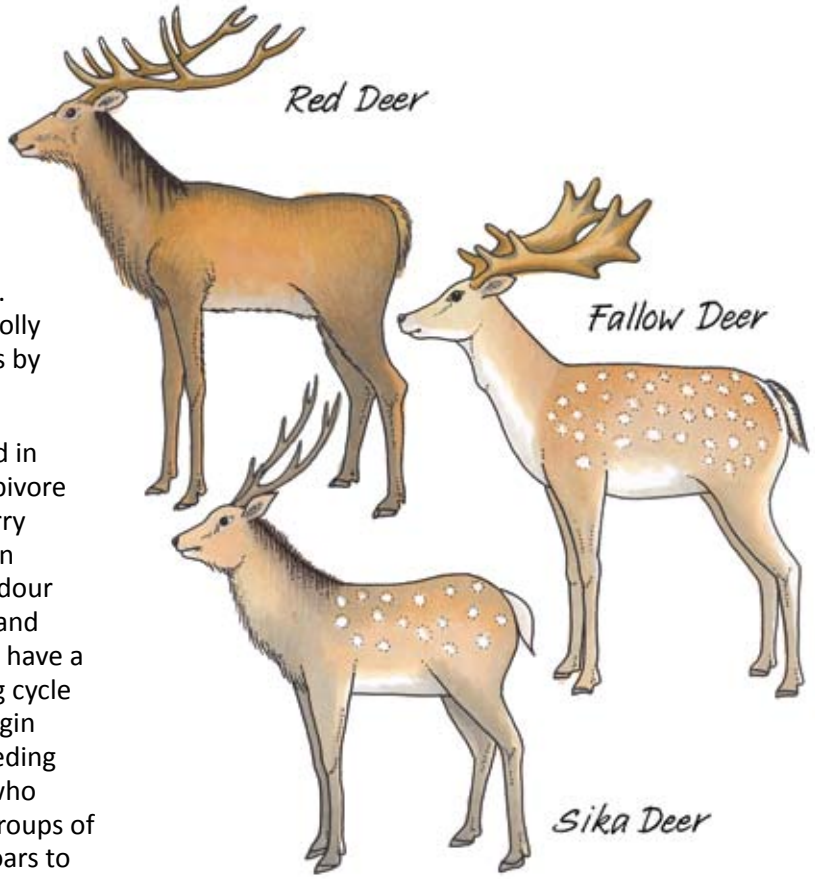


To do with Sixth Class

- Birches are native deciduous trees and there are 229 insect species that are associated with them. Sixth Class should find a silver birch near to the school or preferably in the school grounds and over a year from September to June conduct a weekly survey to find out what insects are there. They need an upturned umbrella to shake the tree into and pooters to lift out the insects for examination. A magnifying glass or a bug box will magnify the captured creature and the pupils should create a class list for the year, of insects or indeed general creepy-crawlies including spiders that fall into their umbrella.

Deer

Latin name – *Cervus elapus*
Irish name – *Fia rua*



Deer are even-hoofed mammals that are entirely herbivorous. They live in woodland, grassland and open mountain and moorland. They eat grass, leaves of trees such as oak, holly and ivy while some of them do harm to trees by eating shoots and stripping bark.

There are three species that occur in the wild in Ireland. The Red Deer is our largest wild herbivore and the only native species of deer. Stags carry branching antlers which are shed each year in March and April and grow again to full splendour by August. Antlers generally increase in size and weight each year and a fully mature stag will have a very impressive set of antlers. Their breeding cycle is controlled by day length, so as the days begin to shorten by the end of September the breeding season known as the rut begins. The stags, who have been living apart all summer, join the groups of females (known as hinds). They emit deep roars to assert their supremacy and fight with other stags by locking antlers and pushing. Whichever one is pushed backwards loses.

Successful stags gather harems containing many hinds and father all the calves that are born to the mothers by the end of the following May. Competition among stags is fierce — they are five years old before they are mature and although stags can live for twelve years, the older ones are not so successful in their fights for hinds.

Native Irish Red Deer now only occur in and around the Killarney National park region of Co. Kerry and on Inishvickillane of the Blasket Islands. Another similar smaller species — the Sika Deer — was introduced to Ireland from Japan in 1860 by Lord Powerscourt initially to his estate in Wicklow. These interbred with the Red Deer that were at the time common in Wicklow and Donegal, so that the deer seen in these areas today are all hybrids between Red and Sika. There is a herd of pure Sika Deer in the Killarney area as well as the herd of Red, but no hybridisation has occurred here and the two species are distinct.

Fallow deer were introduced to Ireland by the Normans in 1244. They were kept in deer parks from which some escaped and they too have become established in the wild. They occur in most tracts of woodland in lowland areas. Male Fallow Deer — known as bucks — have broad, flattened antlers. Females — called does — have just one fawn each in June. There are well known herds in the Phoenix Park in Dublin, in Doneraile Park in Cork and in Lough Fea estate in Co. Monaghan. They are also commonly farmed.

To do with Sixth Class

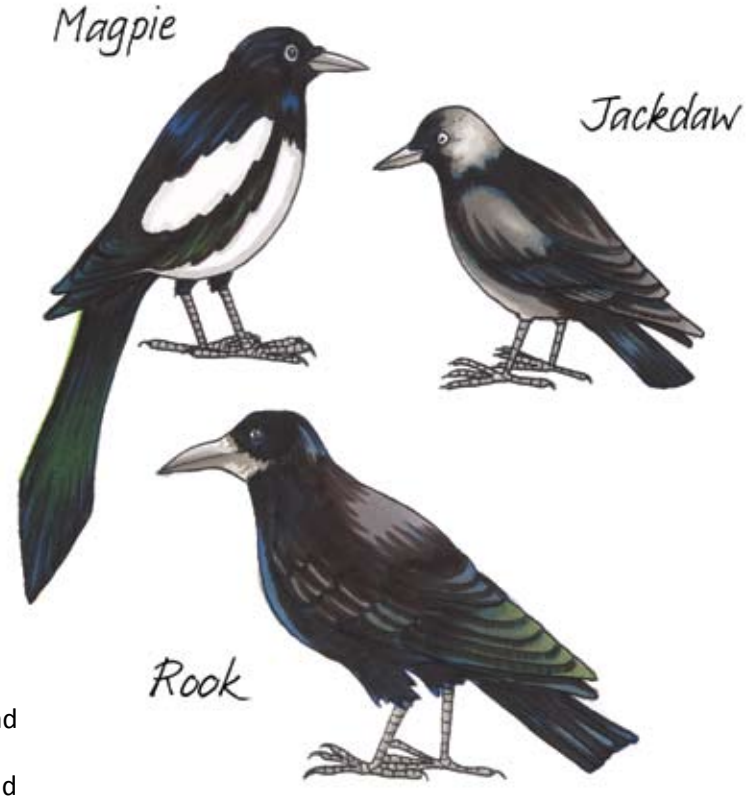
- Wolves were the natural predators of deer in the food chain. These were made extinct in Ireland in the 1700s. Deer now have no natural enemy to control numbers and can expand their herd size enormously causing damage to forestry and leaping out on roads endangering themselves and passing traffic.
- Debate with the class how deer should be managed to be sustainable in the environment. Include such ideas as culling, (which should be culled and how), removal of fawns after birth, hunting as a tourist attraction, visiting and watching them as a tourist attraction, accidents on roads caused by deer, etc.

Debate

Crows

Latin names – *Corvus* (crow)

Irish names – *Cág:* (jackdaw)
Préachán: (rook)
Snag Breac: (magpie)



A crow is the common name given to the large black birds that walk around the school field pecking at the grass, but the truth is that crow is the name of the bird family to which these birds belong. In the school field two species of crow are abundant. The smaller neat one with the charcoal grey head is the jackdaw — which nests in chimneys. The larger glossy black one with completely feathered legs is the rook — which nests in colonies at the tops of tall trees nearby. Both birds are enormously common and no child should leave school without realising that there are two different species and that they look and behave differently.

There are in fact seven members of the crow family in Ireland. The magpie is an instantly recognisable bird. It builds a large untidy nest at the top of tall trees in suburban areas and surveys the territory all around for songbirds to harry and eggs and nestlings on which to feed. It is this behaviour which it carries out so publicly that has made it such an unpopular bird. But from an ecological point of view, songbirds will raise at least six young each year in each nest. There is not space or food for them all in suburban areas and despite how unpleasant it is to us — the magpie is the next stage in the food chain. They do not get all the songbirds — the strongest and cleverest survive — the survival of the fittest.

The hooded crow, also known as a grey crow or a scald crow, also makes infrequent visits into school grounds. Like the others it will scavenge at bins left open or poke for worms on the short sward of the playing field. These grey crows are larger than the others and have quite a distinct grey head and black back. They do immense harm to sheep as they can pick out their eyes leaving them blind. This means that farmers can shoot them under licence.

The other three Irish crow species are: the largest one — the raven — which occurs on open mountainsides; the jay — unmistakable with its brown feathers and intense blue flash on the wing and the chough, a jackdaw-sized black crow with a vivid red bill and legs which only occurs in areas of short grass sand dunes in the west and south of Ireland.

Crows are among the most intelligent of birds. Experiments show that they are able to learn new things and quickly adapt to changing circumstances which is why they are so successful as a species.

To do with Sixth Class

- This class could carry out a scientific count of the number and species of crows seen in the school grounds over a given period. The number might be co-related with weather, breeding time, abundance of food elsewhere i.e. recently harvested grain field nearby, etc.

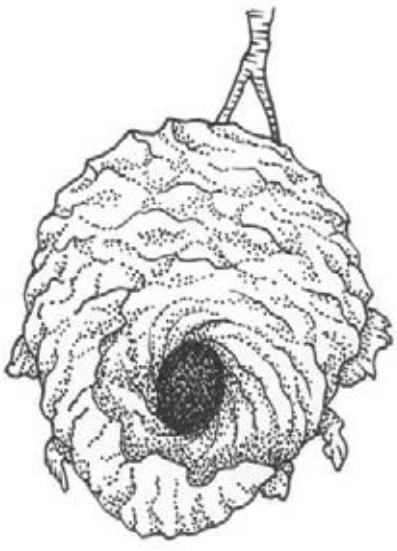
Wasp

Latin name – *Vespula vulgaris*
Irish name – *Foiche*

The wasp is a much maligned insect. It actually does not spend its time going round looking for humans to sting (more than once too if it can). The life cycle of the wasp actually plays a very important role in our natural environment.

Wasps are native social insects. This means that there is a queen and a colony of workers that live together in a nest. The queen hibernates for winter and in March wakes up. She emerges, chooses a nest site and begins to build a paper-like nest from chewed up timber. This nest can be in a hedge, in an attic or roof space, or in a disused shed. She lays eight eggs and when these grow into worker wasps they take over the running of the nest. The queen goes into egg production full time and the workers build six-sided cells for the eggs. The workers are all female and they feed the baby wasps with chewed up greenflies, aphids and other insect garden pests. The adult wasps, on the other hand, feed on a sweet substance excreted by the grubs in the nest.

So all summer long from April to August, wasps do a great deal of good, keeping down the numbers of harmful plant pests. By the end of August the queen will have laid up to 40,000 eggs and is beginning to tire. The nest can be the size of a football by now. The workers build different shaped cells in which eggs are laid that go on to be queens, while different shaped cells again cause her to lay eggs that produce drones. These all leave the nest when mature, mate with those from other nests and the newly fertilised queens go into hibernation at once and emerge to start the cycle all over again next March.



Wasps' nest

Wasp

The old queen back at the original nest lays a last round of eggs and dies by the end of August. This last round of worker wasps have no younger babies to feed with insects, nor indeed any grubs to lick sweet-tasting liquid from. It is these last wasps during the months of September and October, for the six weeks lifespan that they have, that have to hunt everywhere for sweet food. They can eat nectar from flowers, or suck the juices of fallen apples and blackberries. But many of them do come into our homes seeking sugar there. Of course they will sting if assaulted by an angry or terrified human. But they don't seek us out deliberately to sting us. By the end of October they will all have died. The nest is empty and won't be used by next year's queen. The whole cycle will begin again the following March.

About their sting — the sting of a wasp is like a needle and can be withdrawn after it is used in order to sting again. The bee has a sting with a serrated edge which gets stuck in our thick skin and cannot be withdrawn so a bee is torn apart as it tries to withdraw it from a human and will later die.

To do with Sixth Class

- Get hold of a disused, empty wasps' nest. Spray it with hair spray to render it less brittle. Bring into school and let the class examine the nest in detail. It can be cut in half in due course so that the intricate cell structure can be appreciated.

Index

List of helpful publications

Browne, J. (2005) *Ireland's Mammals.* Browne Books. Calverstown, Kilcullen, Co. Kildare.

Cabot, D. (1995) *Irish Birds.* Collins.

Chinery, M. (1997) *Garden Wildlife of Britain and Europe.* Collins Nature Guide.

D'Arcy, G. (1981) *The Guide to the Birds of Ireland.* Irish Wildlife Publications.

Dempsey, E. and O'Clery, M. (2007) *Finding Birds in Ireland–the complete guide.* Gill and Macmillan.

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Hayden, T. and Harrington, R. (2000) *Exploring Irish Mammals.* Town House.

Hickie, D. (2002) *Native Trees and Forests of Ireland.* Gill and Macmillan.

Mac Coitir, N. (2003) *Irish Trees, Myths, Legends and Folklore.* The Collins Press.

Ni Lamhna, E. (2008) *Wild Dublin.* O'Brien Press.

Phillips, R. (1977) *Wild Flowers of Britain.* Pan Books.

Sterry, P. (2004) *Complete Irish Wildlife.* Collins.

Webb, D.A., Parnell, J. and Doogue, D. (1996) *An Irish Flora.* Dundalgan Press.

About the Author

Éanna Ní Lamhna

Éanna Ní Lamhna is best known for her environmental expertise as a broadcaster on the radio programme *Mooney Goes Wild*. Her Co. Louth accent gives her one of the most instantly recognisable voices on radio. Her ability to bring her subject to life is legendary and her no-nonsense approach to romantic views about wildlife is well known.

She is first and foremost a botanist with degrees in both botany and ecology from University College Dublin. Her interest in the environment has expanded with her work over the years, to include birds, mammals and in particular creepy-crawlies whose doings hold a particular fascination for her. Her ability to awaken enthusiasm for these creatures in her listeners is exemplified by the remark made to her lately, "Whenever I see a spider I always think of you and put it outside instead of stamping on it."

She began work in 1974 in the Biological Records Centre — in its first incarnation in An Foras Forbartha. She quickly realised that if she was to receive any biological records from the Irish public she would first have to go and teach them about Irish wildlife. So began a career of teachers' courses, radio programmes, lecturing at third level, field trips with Secondary School pupils and most significantly of all, visits to Primary Schools to teach the pupils and indeed the teachers there, about the wildlife around them.

Her publications include *Talking Wild, Wild and Wonderful*, *Straight Talking Wild* and *Wild Dublin*. She has just completed a five-year term of office as President of An Taisce and is currently the Vice-President of the Tree Council of Ireland.

About the Illustrator

Christine Warner

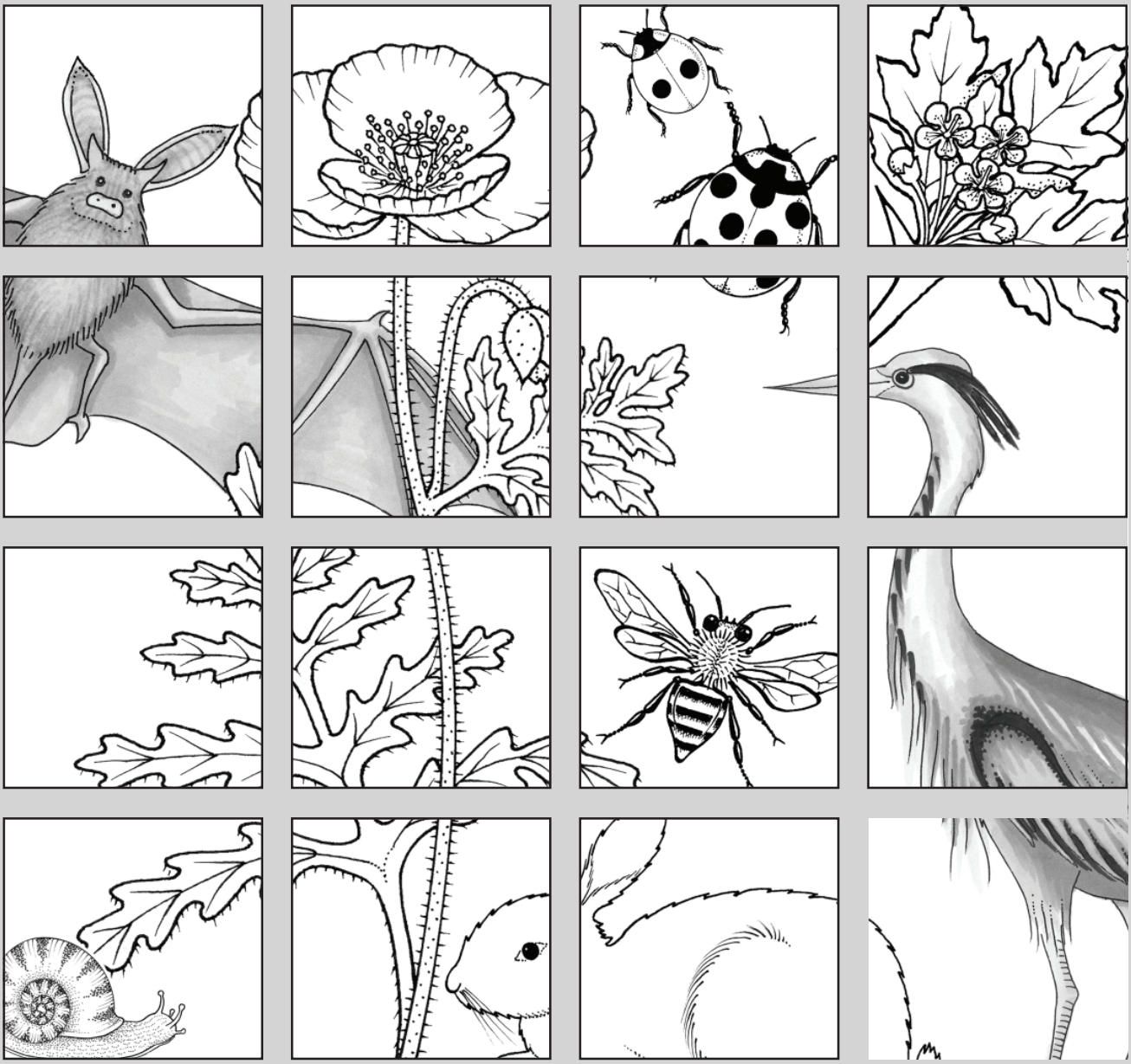
Christine Warner is an illustrator and calligrapher working mostly in the field of education. She provides full colour illustrations, line diagrams and cartoons for textbooks, workbooks and posters. She has worked for many educational publishers and also for Dúchas, Forfás and Trócaire.

While she illustrates material on a wide variety of subjects, she specialises in science, having science degrees from University College Dublin and Trinity College Dublin. She particularly enjoys producing wildlife illustrations and cartoons. She has been an environmental activist for many years. Christine may be contacted via email at cwarner1@gmail.com

ISBN 978-1-900-923-118

Wild Things at School

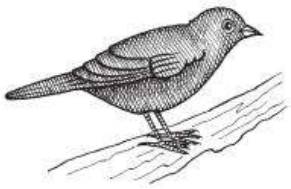
Worksheets for Primary School Students



by

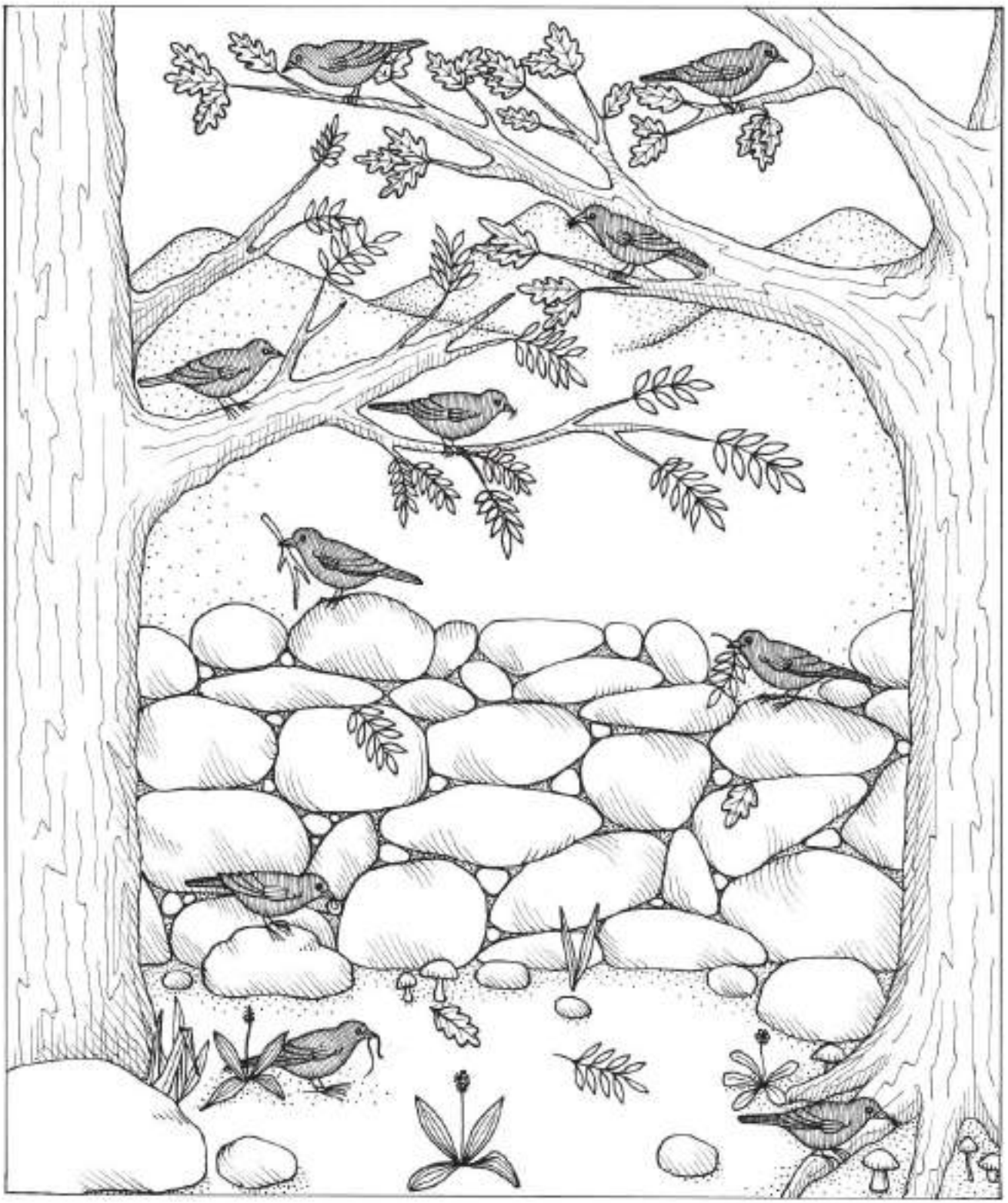
Éanna Ní Lamhna

Illustrations *by* Christine Warner



Wild Things at School

Worksheets



Wild Things at School

Worksheets

by

Éanna Ní Lamhna

Illustrations *by* Christine Warner

Graphic design *by* Bogfire

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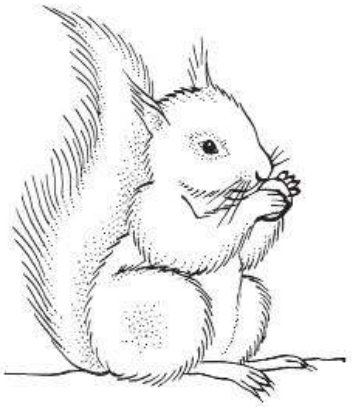

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Graphic design by Connie Scanlon and James Fraher, Bogfire. www.bogfire.com

This publication has been supported by the Heritage Council.

An Chomhairle Oidhreachta
The Heritage Council

Acknowledgements

The *Wild Things at School* series has been developed to help engage primary school children and teachers with nature. The original publication, *Wild Things at School,* a book for primary school teachers has been positively received by teachers all over Ireland and has proved to be a valuable teaching resource. This new publication of *Wild Things Worksheets* is designed to accompany the teacher's book providing material for use in the classroom. Exercises are divided into class groups, from the simplest counting for junior infants to stimulating debates and field studies for the older children.

The exercises have been created and developed by wildlife expert Éanna Ní Lamhna, who has many years experience visiting schools all over Ireland. Christine Warner's beautiful illustrations were specially commissioned to enhance the learning experience on every page. Photographs of all the wild things are included on a DVD along with the worksheets and original teacher's book. The worksheets are available in Irish and are also on the DVD.

This publication is funded by the Heritage Council Heritage Plan fund, Monaghan County Council Heritage Office and Meath County Council Heritage Office.

The publication design is by Connie Scanlon and James Fraher at Bogfire. Proof reading was undertaken by Graham Smith of Wordsmith. Irish translation of the worksheets is by Máire Mhic Thaidhg. Pronsias Ó Donnghaile proofread the Irish version. Photographs are mainly from Eric Dempsey and Shirley Clerkin.

I hope that the production of these worksheets will assist teachers to deliver the *Wild Things* programme. Enormous thanks goes to those who have been involved with this project, particularly Eanna and Christine whose creative partnership has resulted in a fantastic teaching resource. It has been a labour of love for us all; a love for nature that we genuinely wish to pass on to its future custodians.

We wish you luck with the *Wild Things* programme.

Shirley Clerkin
Heritage Officer
Monaghan County Council
heritage@monaghancoco.ie

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Introduction to Junior Infants Worksheets

Daisy

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Hedgehog

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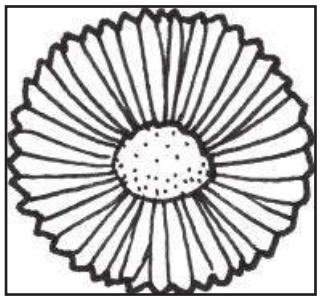
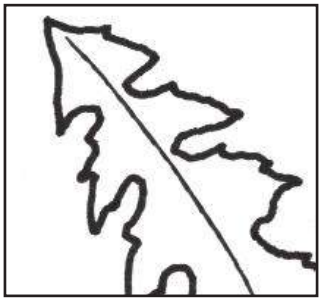
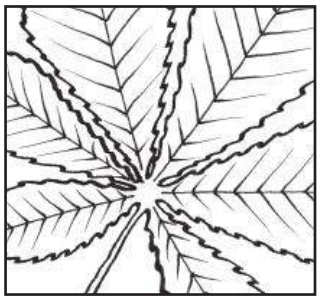
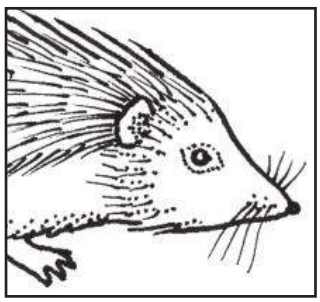
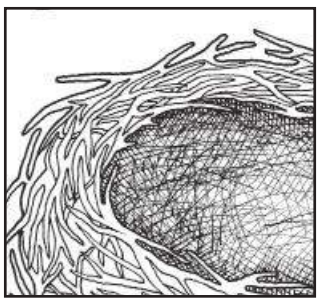
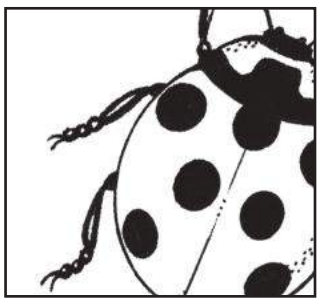
In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the children themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher who should also show the pictures of each species provided.

Worksheets are given in the same order as the species in the handbook, although this is not necessarily the order in which they should be taught. Flowers can be found in September and more easily in May and June, for instance, while the horse chestnut has leaves in September and conkers and then the branches are bare until late March. These things need to be taken into consideration. There are two worksheets for each topic – twelve in all – and they are designed to be photocopied and handed out to the pupils.

Junior Infants Teacher Notes

Daisy 1

Worksheet in three sections

Writing practice:
Pupils practise writing the letter 'd'.
d d d d d d d

Counting practice:
Pupils count the number of daisies and write the total in the boxes.

Classification:
Pupils identify the daisies from a group of flowers and colour them in.

Daisy 2

Worksheet in three sections
(Do this when daisies are in flower.)

Identification and counting:
Pupils identify and count the daisies in a picture which also contains dandelions. The picture can then be coloured in.

Fieldwork outdoors and manual dexterity:
Pupils find daisies growing outside on school lawn. Each child collects two and sticks them in to the spaces provided.

Writing practice:
Write the word daisy over the letters in pale grey daisy.

Dandelion 1

Worksheet in three sections

Counting and recognising letters:
How many letters **d** in **dandelion**
How many letters **n** in **dandelion**

Counting and following instructions:
Pupils colour two dandelions (out of a line-up of 4 dandelions).

Recognising images:
Pupils find the dandelion in a line-up of flowers.

Dandelion 2

Worksheet in three sections

Fieldwork outdoors and manual dexterity:
Pupils find a dandelion leaf outdoors and stick it in the designated space.

Counting and classifying:
Pupils identify and count the dandelions in a picture which also contains daisies.

Observation skills:
Pupils find the odd one out in a line-up of dandelions where one is slightly different.

Horse Chestnut 1

Worksheet in three sections

Recognition and colouring:
Pupils colour in the chestnut leaf and the conker in its prickly shell.

Manual dexterity, make-and-do:
Pupils colour in the drawn leaf and then cut it out. Teacher can make a "tree" in class and stick on the leaves. If this is done in autumn some of the leaves can be coloured brown.

Horse Chestnut 2

Worksheet in three sections

Recognition:
Pupils find and colour in the chestnut leaf (from an array of three different leaves drawn).

Fieldwork and dexterity:
Find a chestnut leaf and stick it to the page in the section allocated for this. Note that chestnut leaves are large compound leaves with seven leaflets. What is required here is that just one of the leaflets is stuck to the page – a whole leaf with seven leaflets would be too large.

Fieldwork:
Pupils make a bark rubbing of a chestnut trunk. They put the page against a chestnut tree and rub a crayon over the bank box – an image of the tree texture will appear in the box.

Hedgehog 1

Worksheet in three sections

Counting:
How many hedgehogs – from a line-up of four hedgehogs?

Counting, Colouring and following instructions:
Pupils colour two hedgehogs only, in a line-up of five hedgehogs.

Visual and manual skills and elementary food chain:
Pupils draw the line the hedgehog must take through the maze to get to its food.

Hedgehog 2

Worksheet in three sections

Drawing skills:
Pupils finish the drawing of a hedgehog that has been presented as an incomplete drawing. They must then add the spines themselves.

Classification and association skills:
Lead the hedgehogs to the snails. Pupils should draw lines to join one hedgehog to one snail in a picture that has a group of hedgehogs and snails.

Writing skills:
Pupils write out the word **hedgehog** over the faint grey outline.

Robin 1

Make-and-do worksheet

Manual Dexterity:
This worksheet has a drawing of a robin, eggs and a nest. Pupils are asked to colour in the robin (brown back with red breast), the eggs (white with brown spots) and the nest made from twigs and moss. They then cut out the robin and the eggs, cut a slit at the top of the nest and insert the robin so that it is sitting on the nest. The eggs can be stuck underneath.

Robin 2

Make-and-do worksheet

Manual Dexterity, colouring and writing:
This worksheet, when folded in four, forms a Christmas card. Pupils colour it in and write on the four sections, as indicated. They can colour-in the border on each page, too.

Ladybird 1

Worksheet in three sections

Counting and classification:
Pupils match the ladybirds. There are six in the drawing – three with two spots and three with seven spots. They can colour these ladybirds in red with black spots.

Counting and manual dexterity:
Pupils complete the drawing of a ladybird by joining the dots. They colour it red. Then they cut out the spots and stick them to the picture in the correct places.

Writing:
Pupils write the word **ladybird** over the pale grey outline of the word. ladybird

Ladybird 2

Worksheet in two sections with extra third option

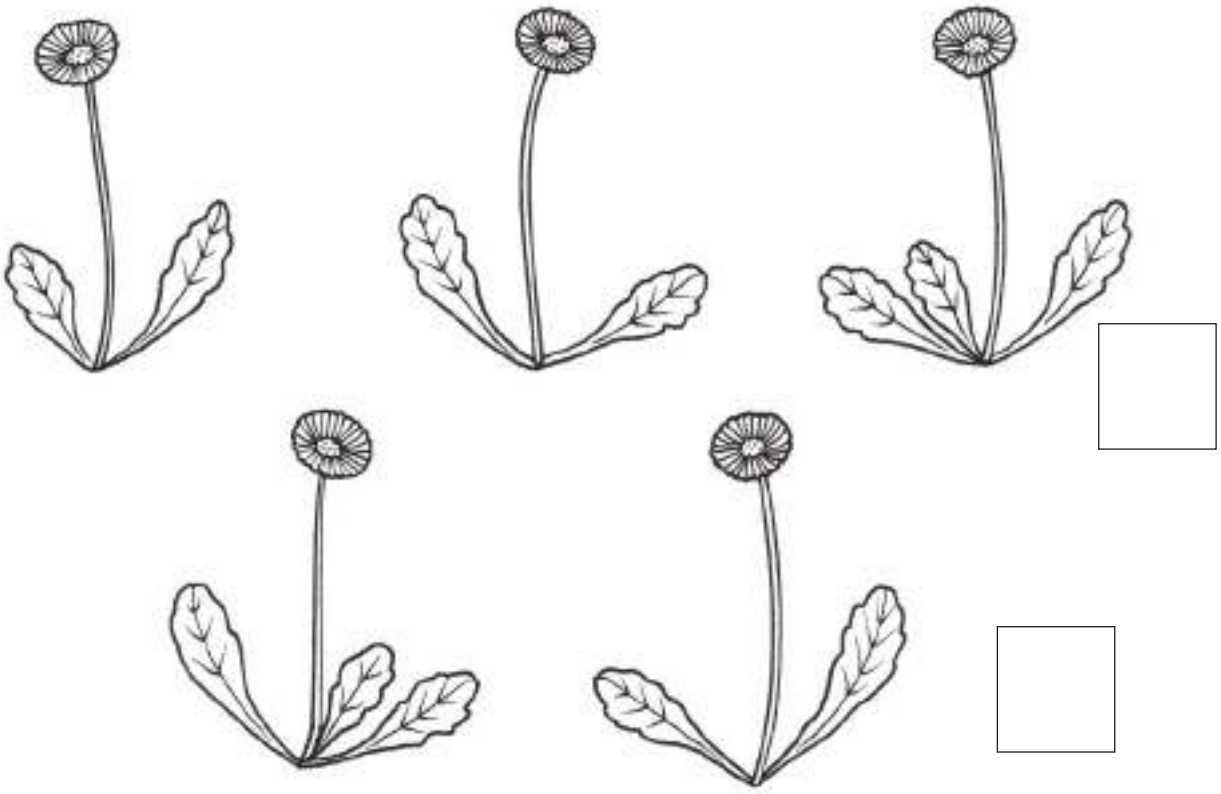
Recognition and classification:
Pupils find the ladybirds in a picture that also contains flowers, hedgehogs etc.

Counting and following directions:
Pupils colour only the two-spot ladybirds in a group of ladybirds that contain a selection of species.

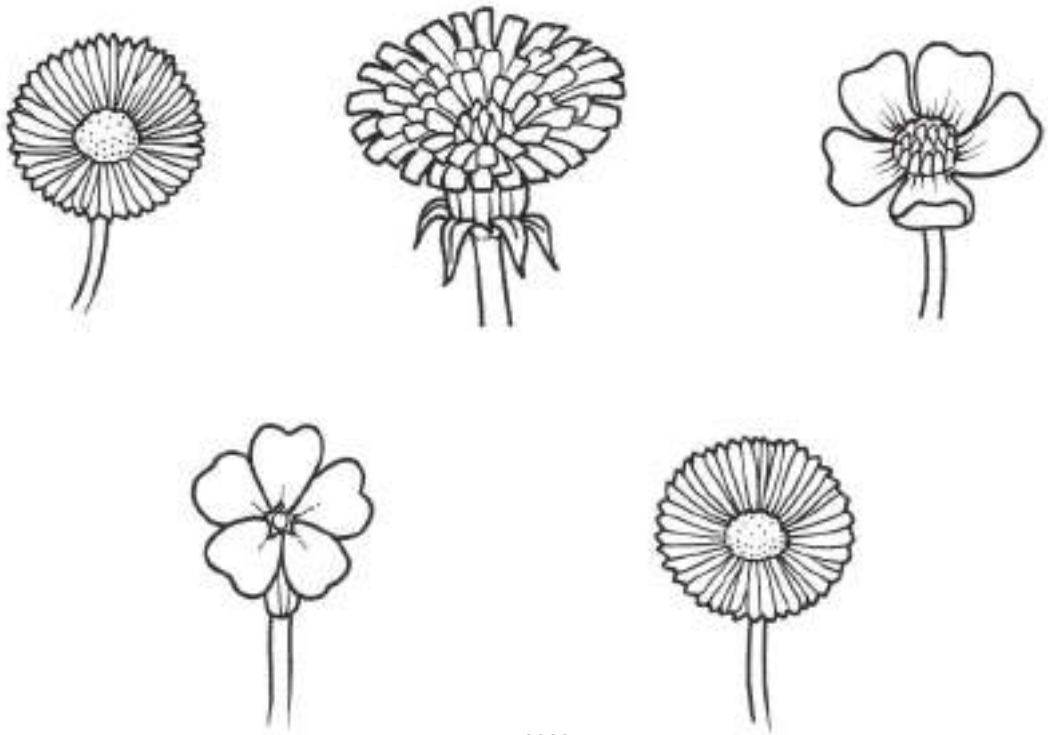
EXTRA OPTION
Accurate Drawing (on a separate blank page supplied by the teacher):
Pupils draw a picture of a ladybird in the box on the page provided – it should be an accurate 2- or 7-spot one. No ladybirds exist with 3, 4, 5, 6, 8, or 9 spots so make sure they do it scientifically correct. This is not a cartoon but a proper drawing of a ladybird to the best of their ability.

d d d

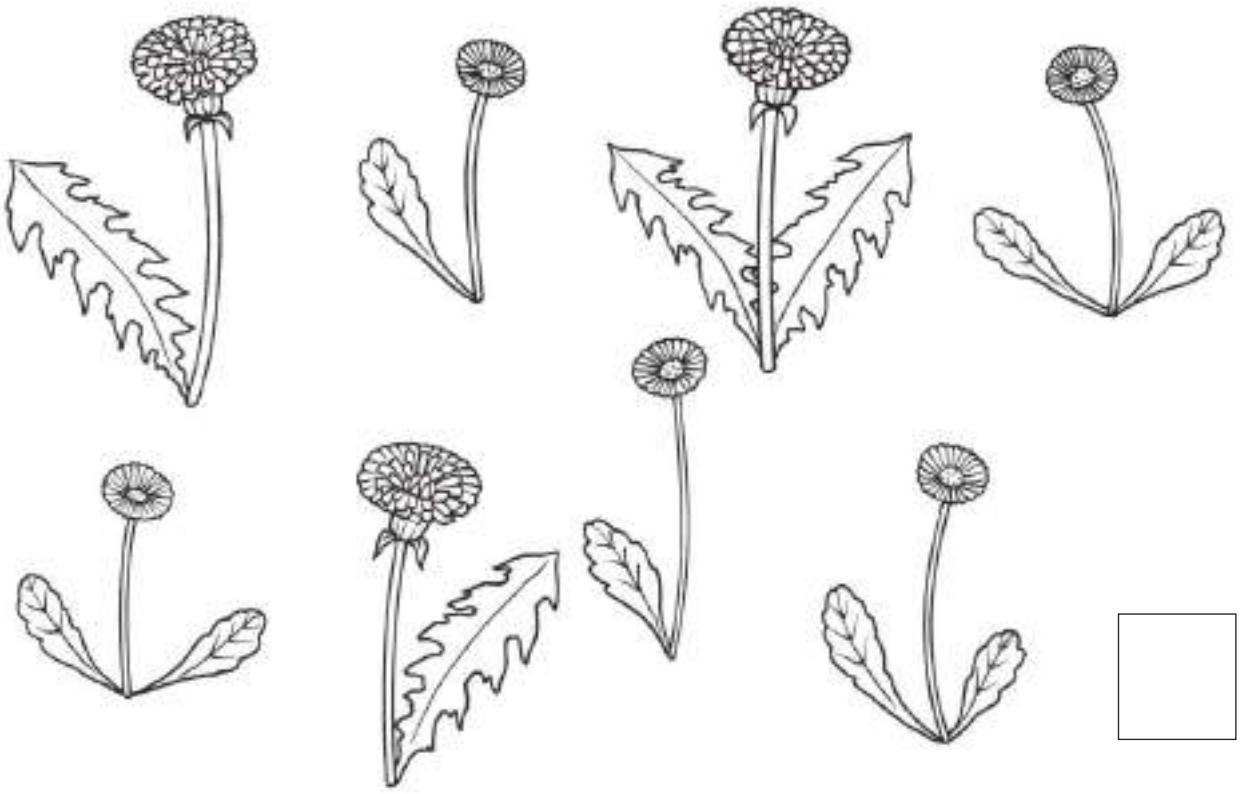
How many daisies?



Colour all the daisies.



How many daisies?



Go out and find 2 daisies and stick them to the page.

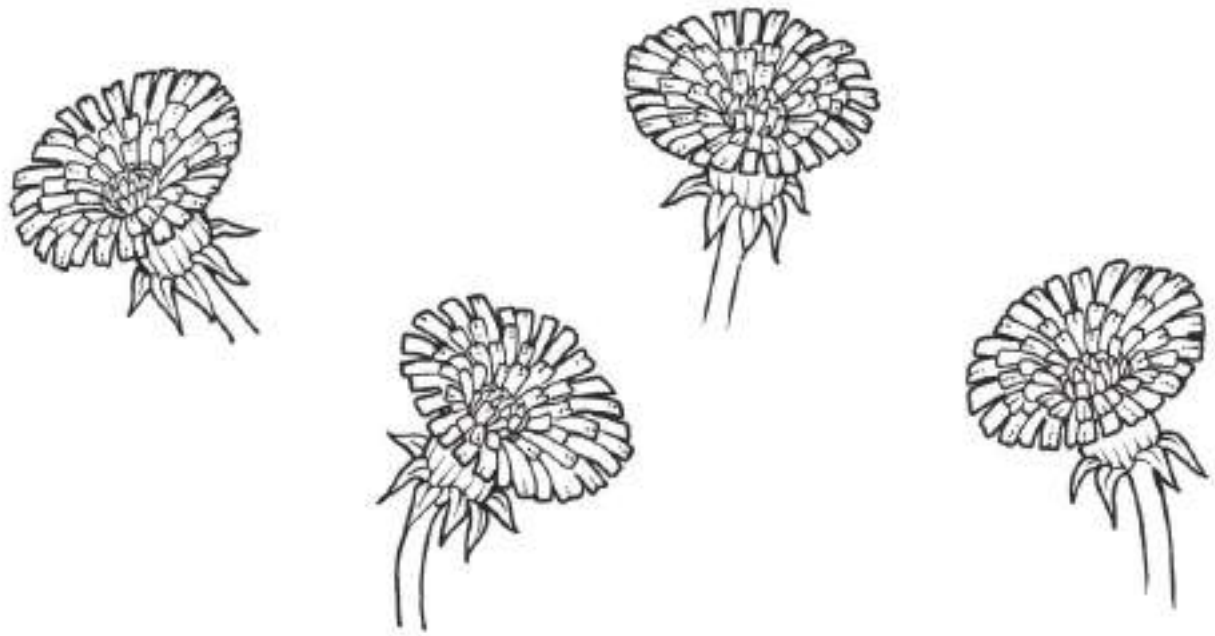
Fill in the word 'daisy'.

daisy

dandelion

How many d's? ☐ **How many n's?** ☐

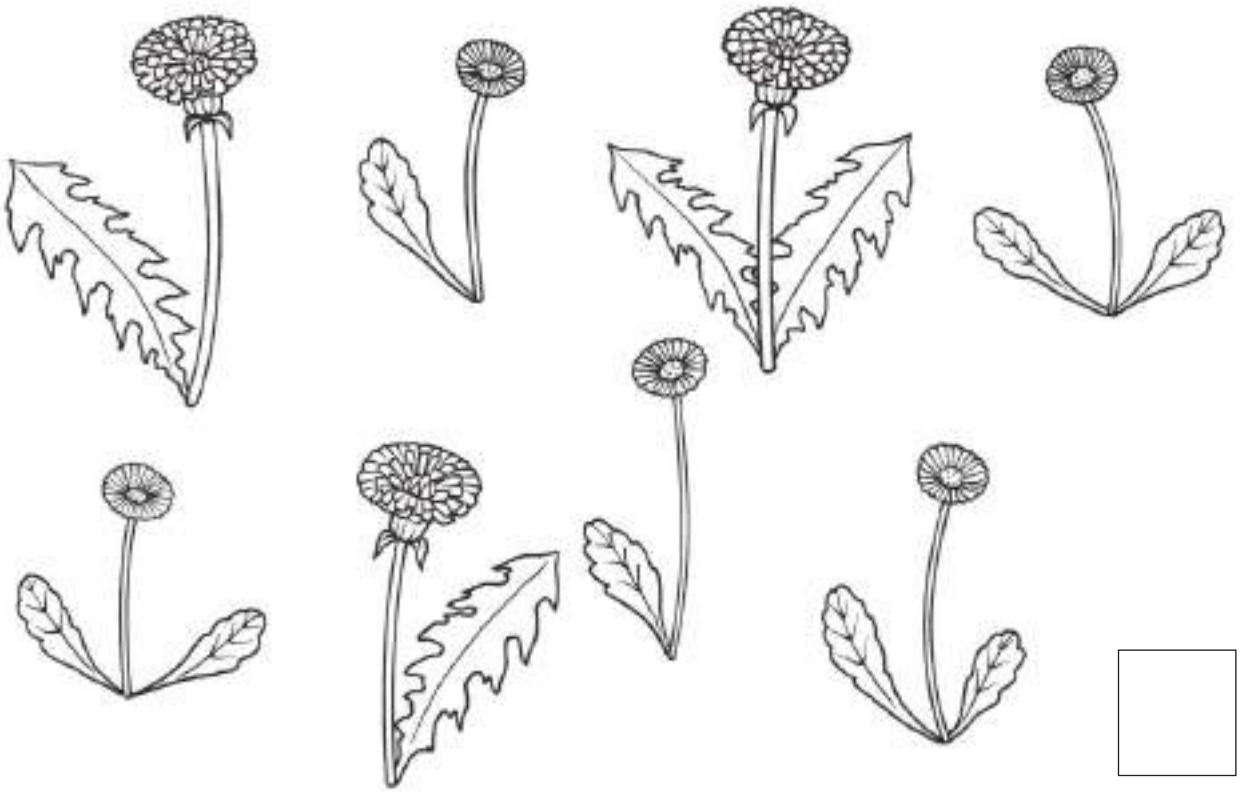
Colour 2 dandelions.



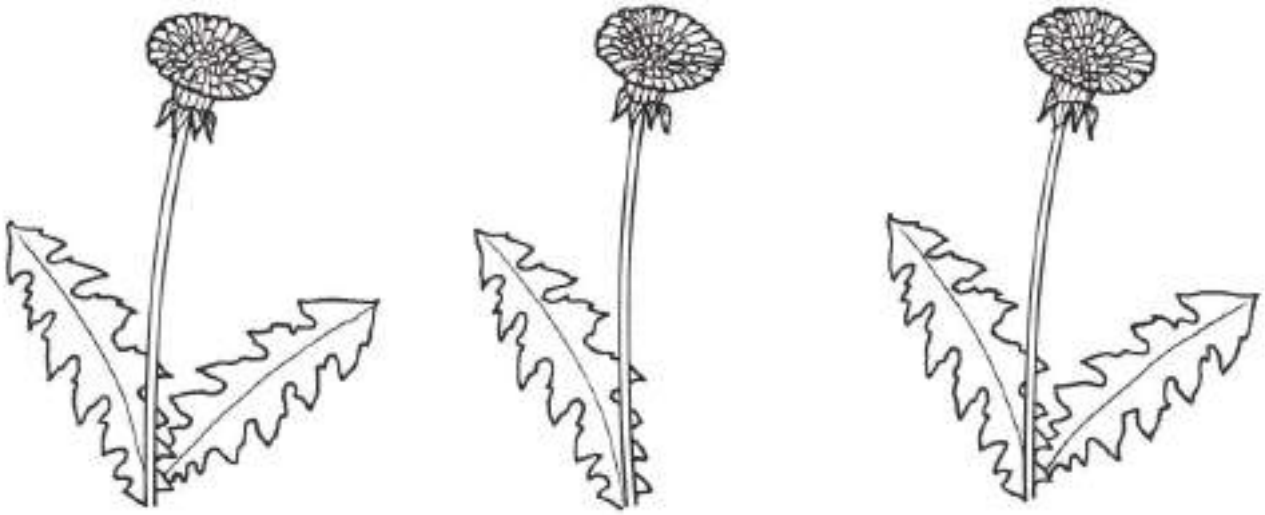
Find the dandelion.

Find a dandelion leaf and stick it to the page.

How many dandelions?

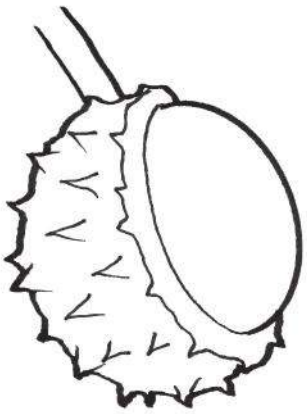


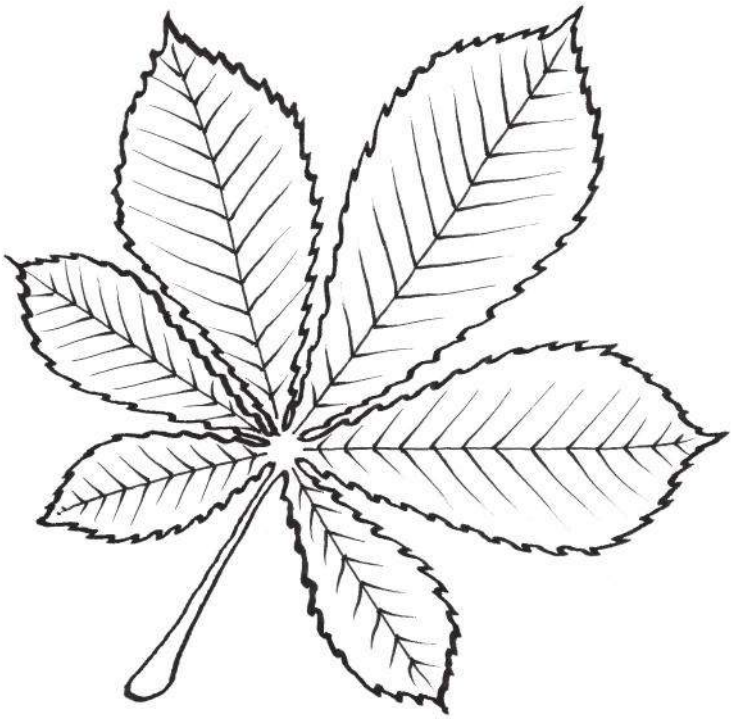
Find the odd one out.



Colour the horse chestnut leaf.

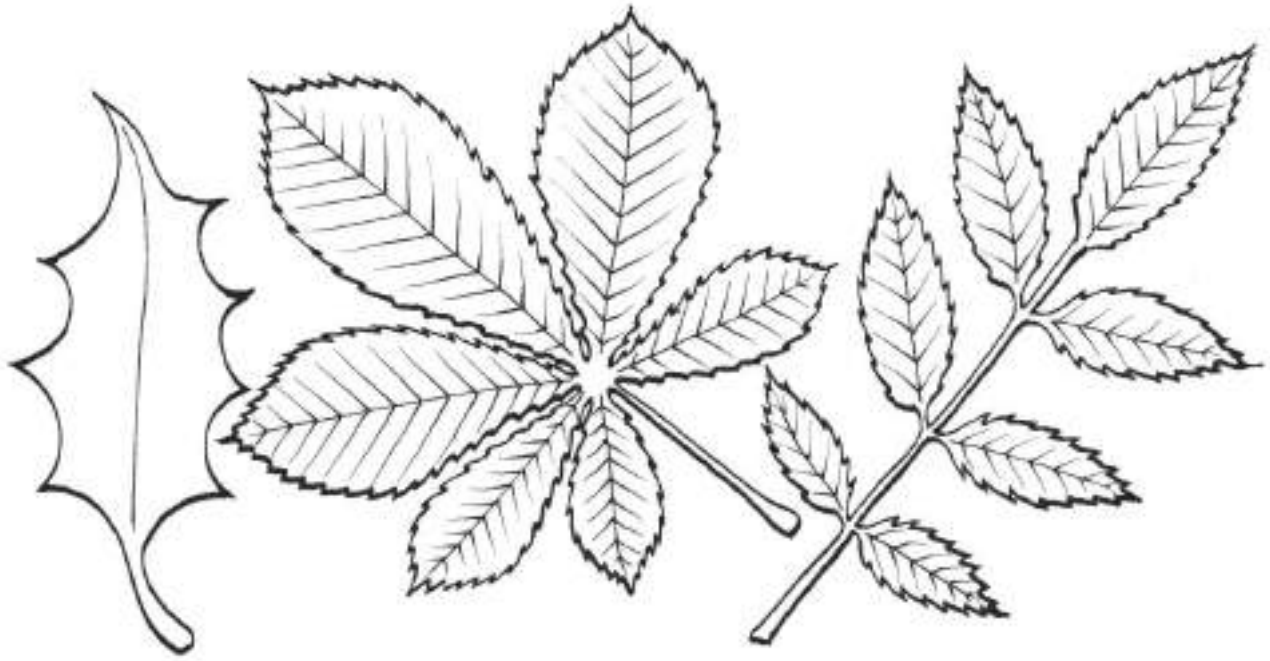
Colour the conker.





Draw a leaf and colour it and cut it out.

Find the horse chestnut leaf.

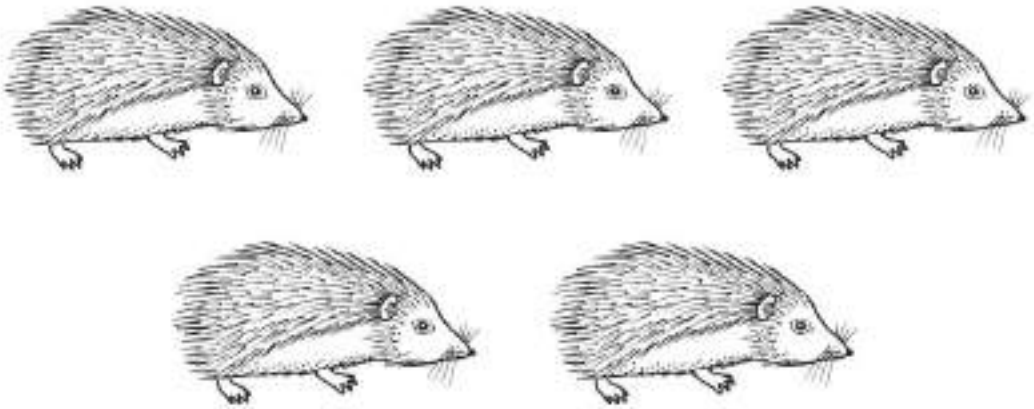


Find and stick on a leaf.

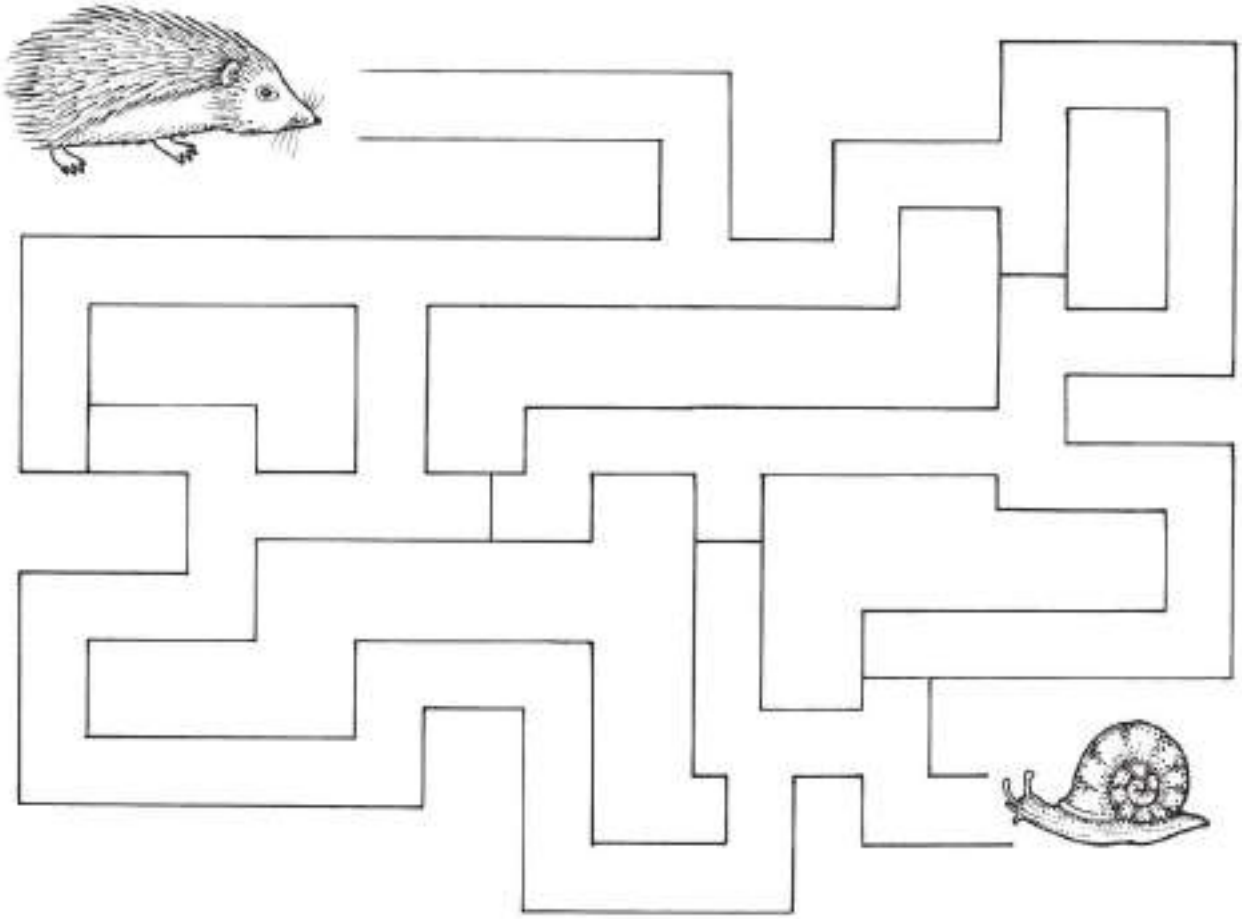
Make a rubbing of horse chestnut bark.

How many hedgehogs?

Colour two hedgehogs.

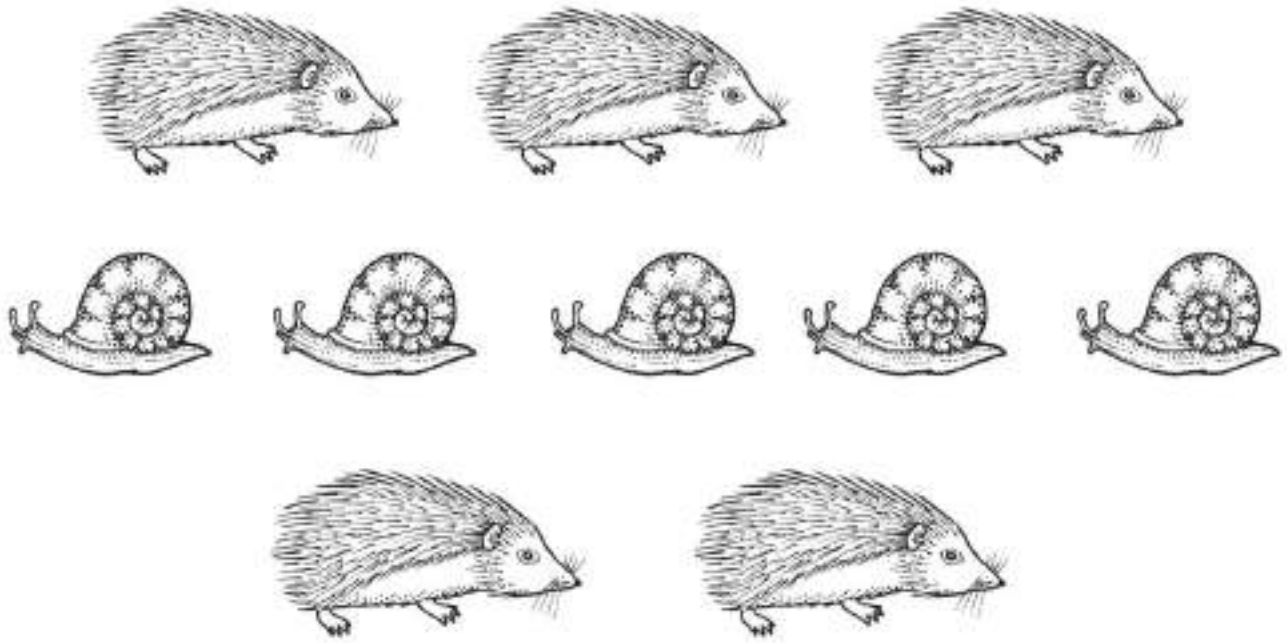


Help the hedgehog find its way to the snail.



Finish drawing the hedgehog.

Lead each hedgehog to its food by drawing a line.

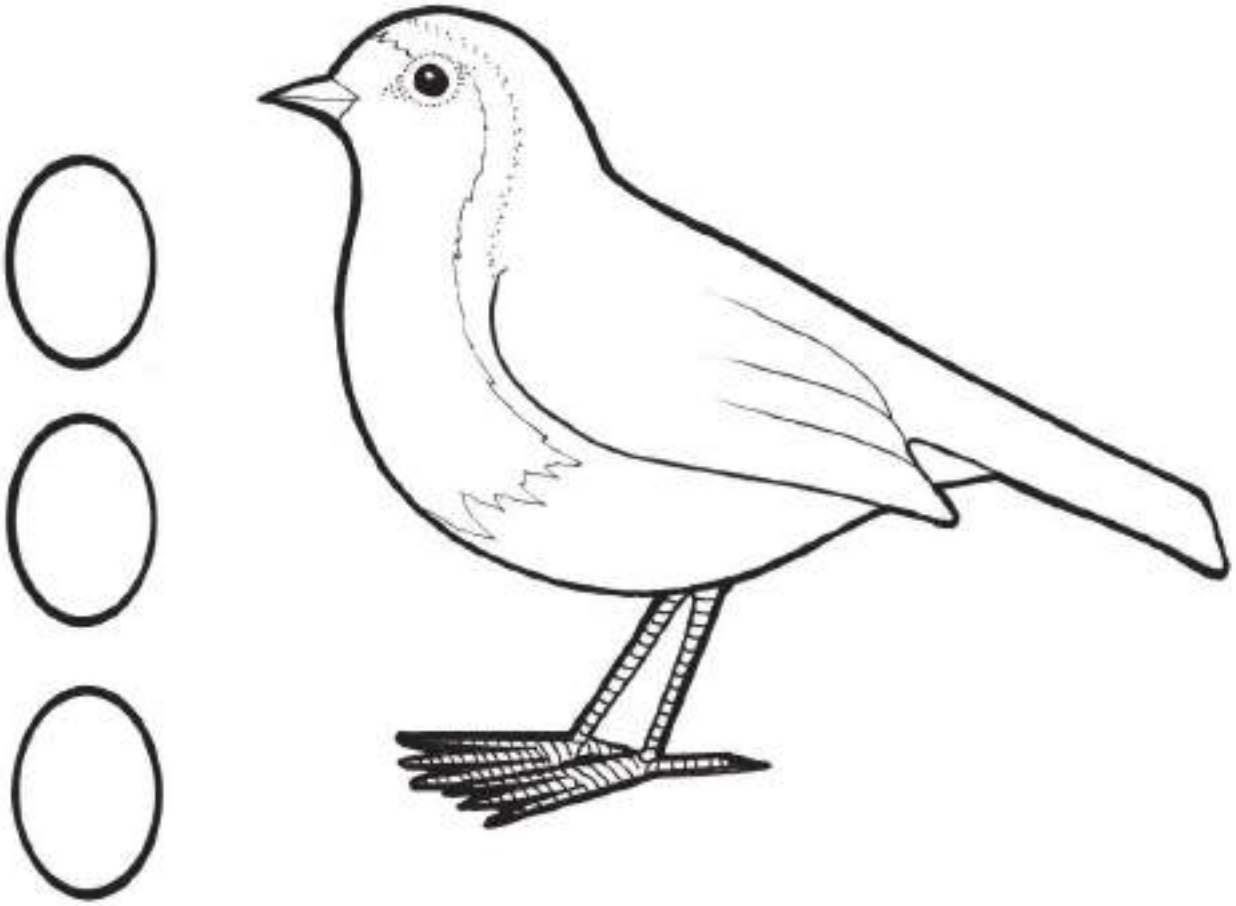


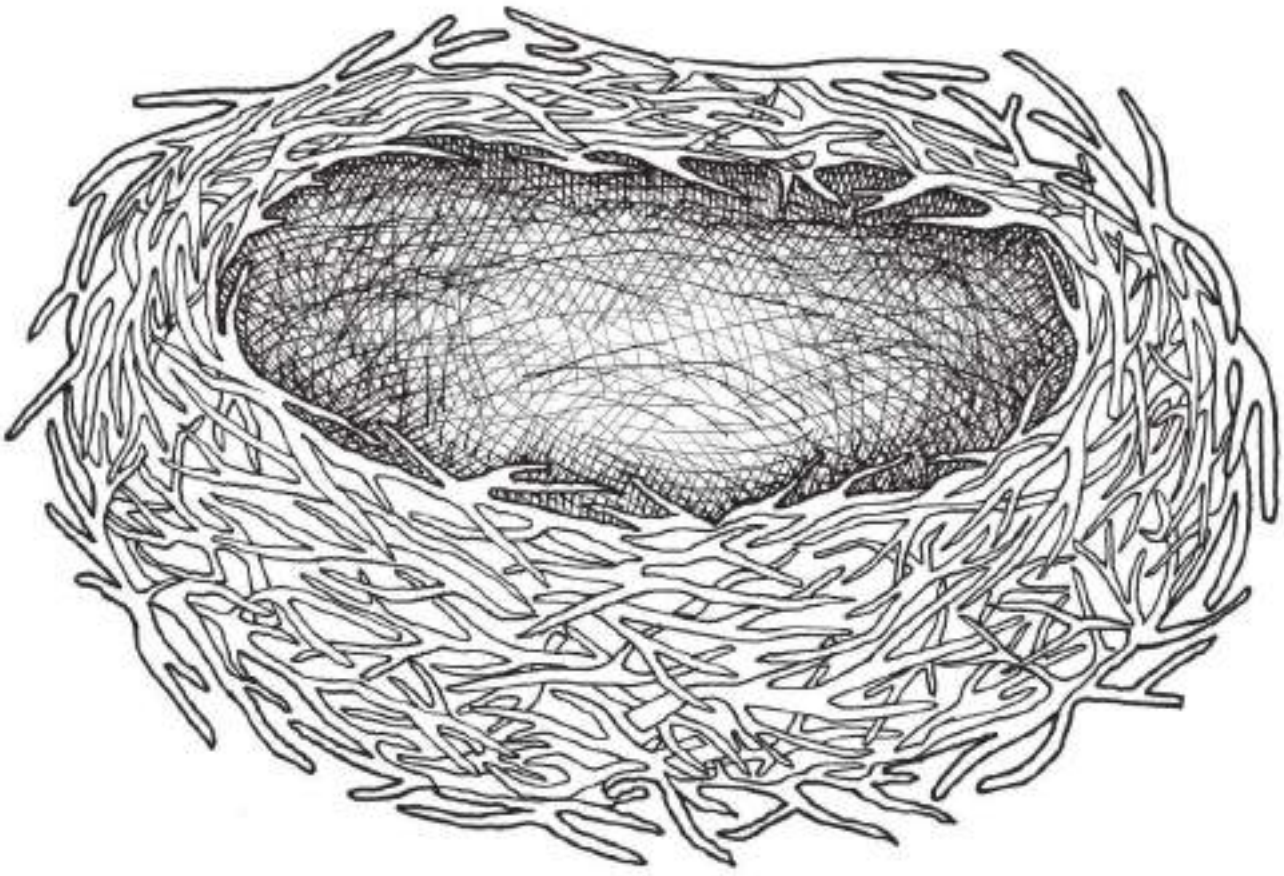
Write 'hedgehog'.

hedgehog

Cut out the robin and the egg and stick them into the nest.

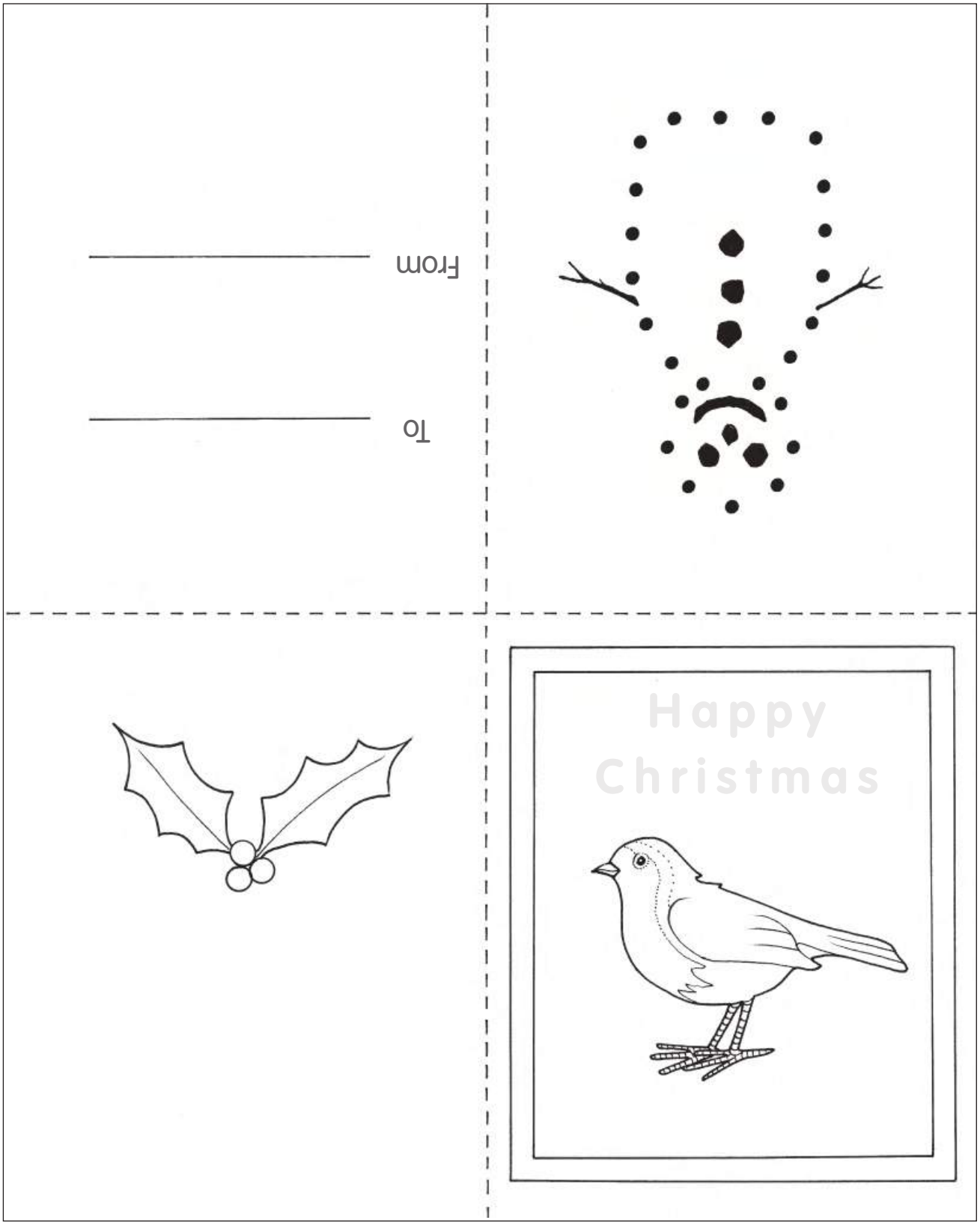
Colour the picture.



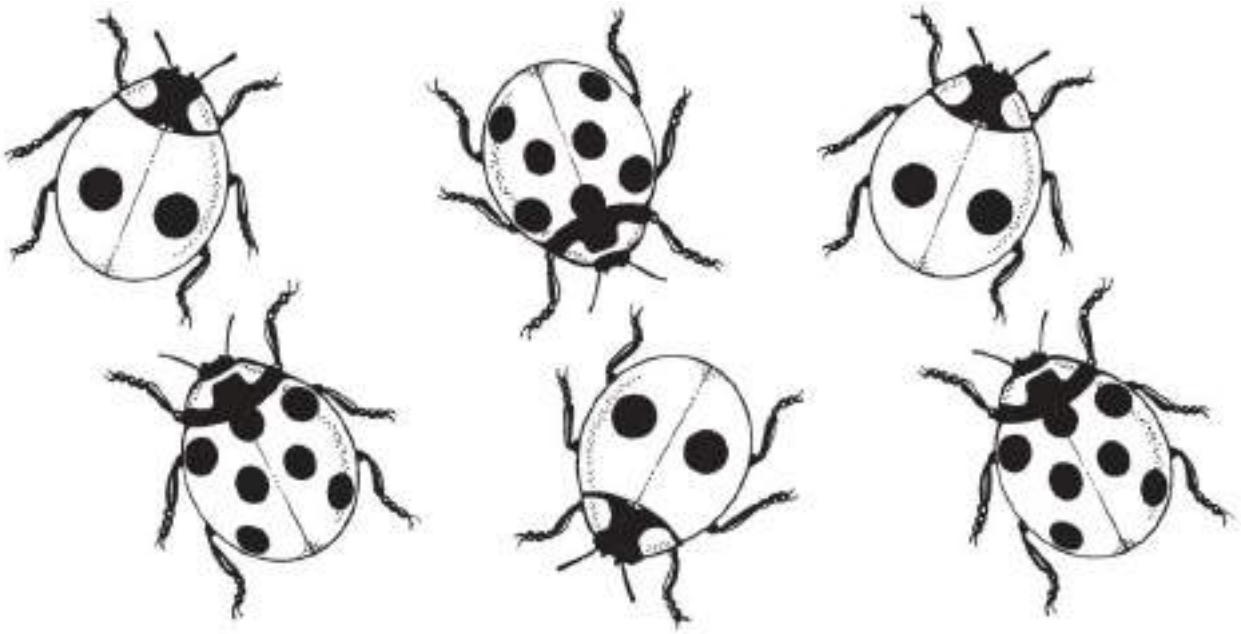


Make a Christmas card. Write 'Happy Christmas' on the front.

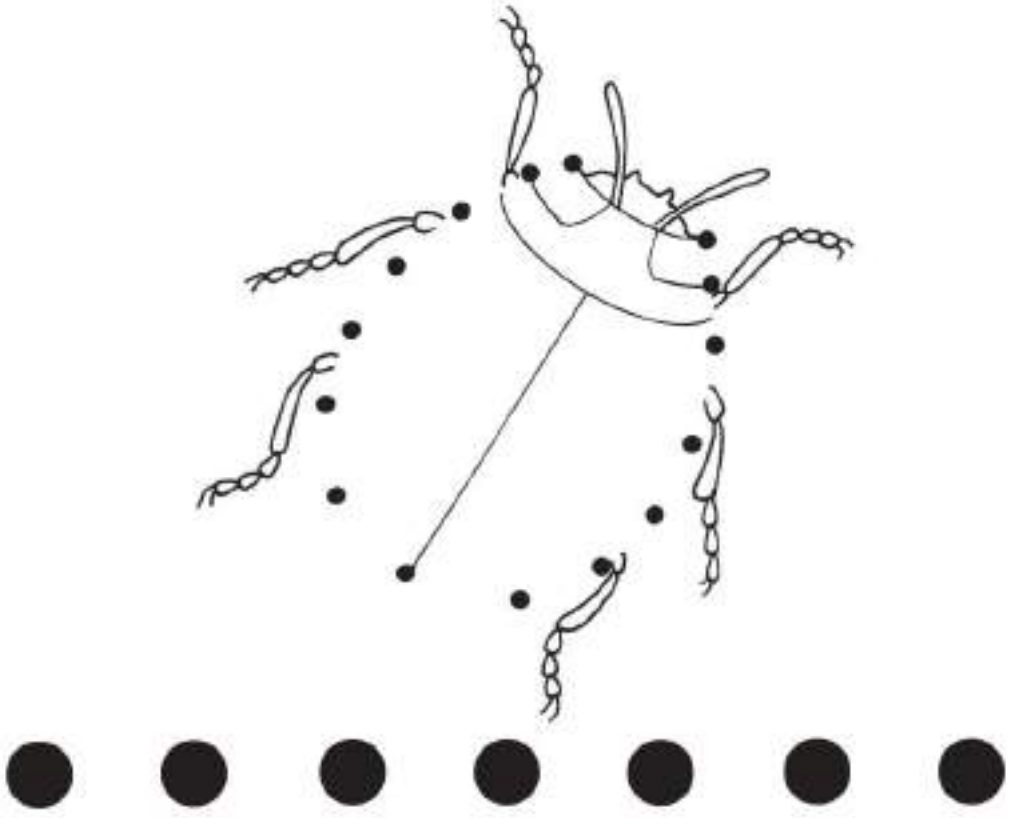
Join the dots to finish drawing the snowman. Colour the card and fold it.



Match the ladybirds. Circle all the 7-spot ones.



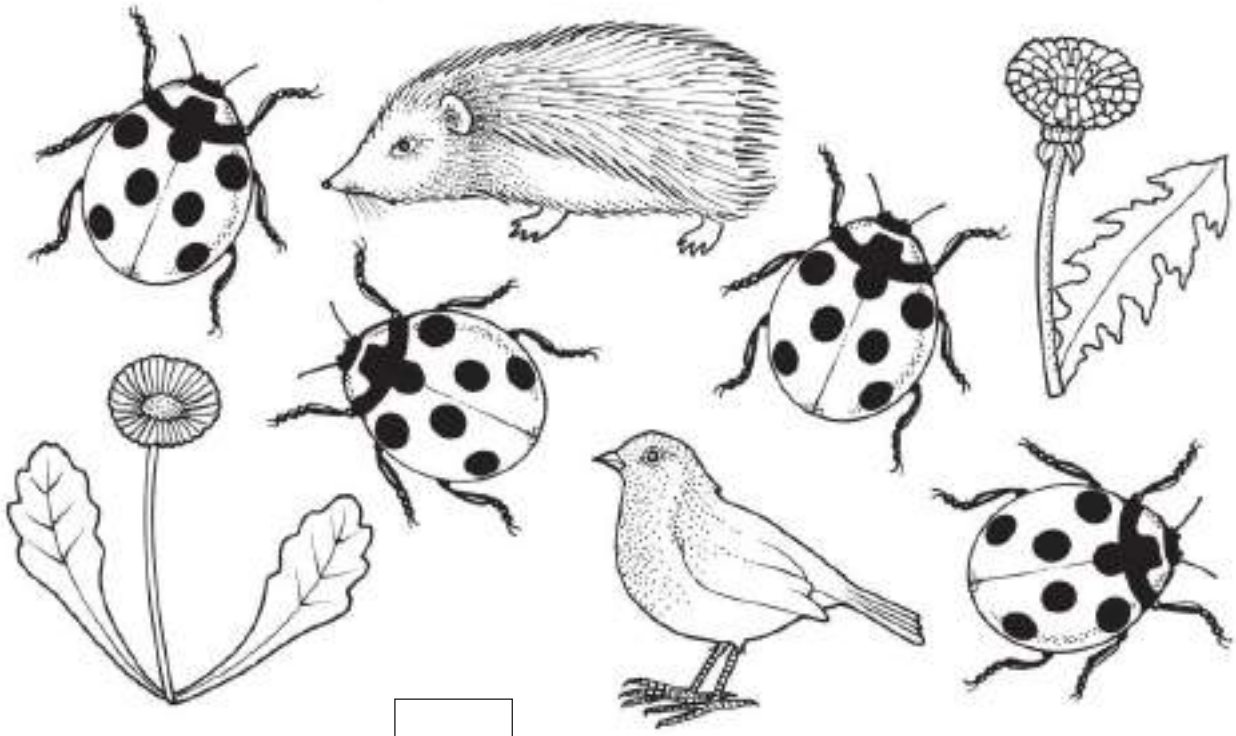
Finish drawing this ladybird by joining the dots. Then cut out the spots and stick them to the ladybird's back.



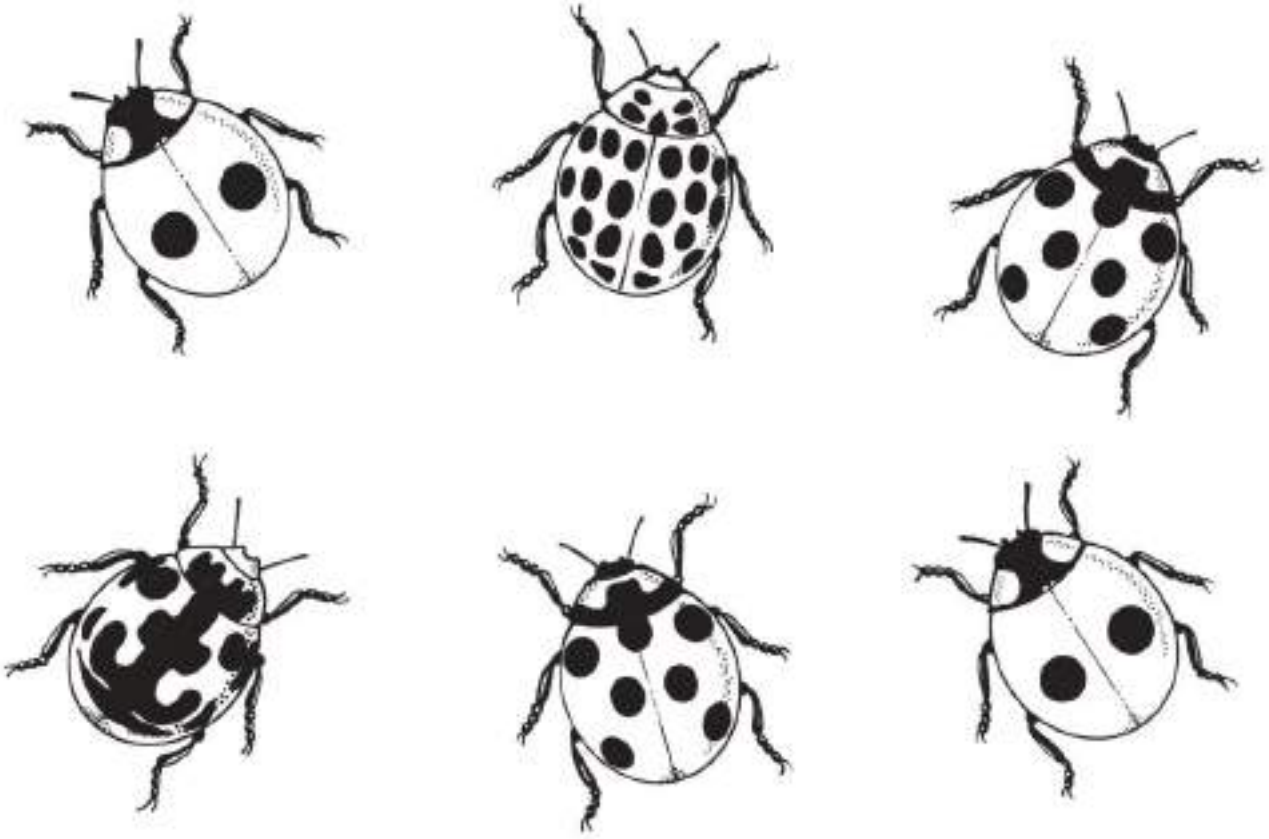
Write 'ladybird'.

ladybird

How many ladybirds?



Colour only the two-spot ladybirds.



Introduction to Senior Infants Worksheets

Buttercup

White Clover

Holly

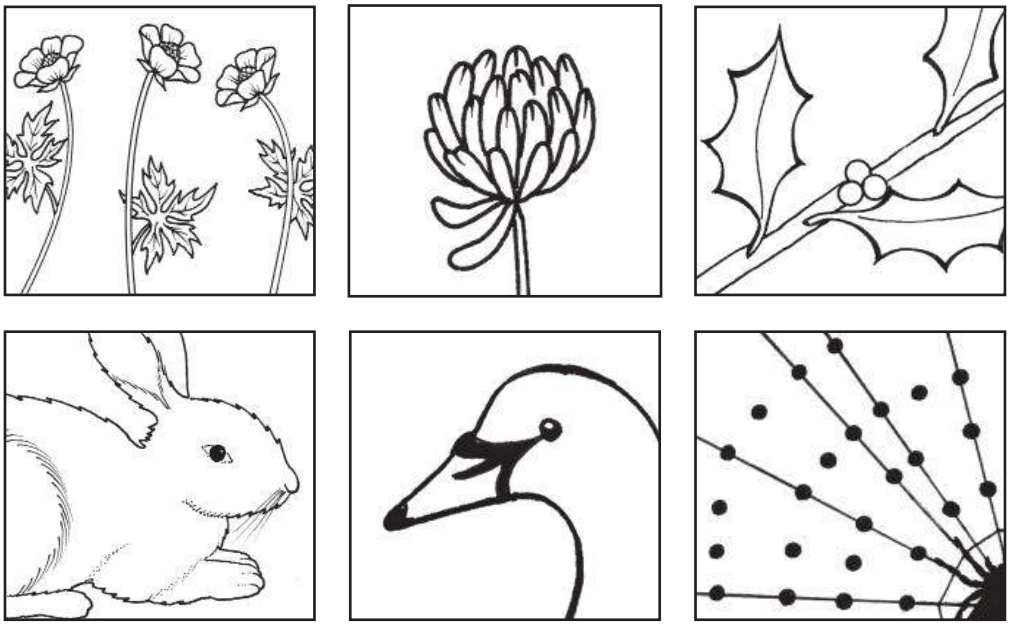
Rabbit

Swan

Spider

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher who should also show the pupils the pictures provided of each species.

Worksheets are given in the same order as the species in the handbook, although this is not necessarily the order in which they should be taught. Buttercups and clover can be found in September and more easily in May and June. Holly has leaves all the year round and berries in winter. Spiders are most easily seen in September. These things need to be taken into consideration. It is very important that the pupils be brought out into the school grounds to look for the plants and trees. It is not the same if the teacher brings in the plants. **N.B. Clover and buttercups grow and flower in un-mown sections of grass so get the caretaker to leave a section un-mown.** There are two worksheets for each topic – twelve in all – and the worksheets are designed to be photocopied and handed out to the pupils.



Senior Infants Teacher Notes

Buttercup 1

Worksheet in three sections

Writing practice:
Pupils practise writing the word **buttercup**

Counting practice and letter recognition:
Pupils count the number of different letters in the word

Following instructions:
Pupils colour in only 4 of the 6 buttercups drawn.

Classification:
Pupils identify the buttercups from a group of flowers and colour them in.

Buttercup 2

Worksheet in three sections

(Do this when buttercups are in flower)

Writing and letter recognition:
Pupils fill in the missing letters **buttercup**

Fieldwork outdoors and manual dexterity:
Pupils find buttercups growing outside in an un-mown area of school field. Each child collects one and sticks it in to the space provided. A buttercup should have 5 petals.

Accurate drawing:
Pupils should be encouraged to do an accurate drawing, with the correct number of petals.

Clover 1

Worksheet in three sections

Practising writing: **white clover**

Counting and recognising letters: How many letters in the two words – **white clover** ?

Observational skills:
Pupils connect each bee to each clover with a line.

Accurate drawing:
Pupils complete the drawing of the clover as accurately as they can. They then colour it in.

Clover 2:

Worksheet in three sections

Species recognition:
Pupils recognise the clover leaves among the other leaves drawn. They will already have been drawing the plant on the Clover 1 worksheet.

Counting practice:
Pupils are asked to count the leaflets – 3 to a leaf – not the number of leaves.

Fieldwork:
Clover plants should be found in an un-mown section.

Holly 1

Worksheet in three sections

Writing practice:
Write the word holly twice.

Counting practice:
How many berries?

Colouring accurately:
Pupils colour in the holly and berries.

EXTRA OPTION
Field work, if possible (using a blank sheet provided by the teacher):
Pupils find a holly tree and do a bark rubbing with pencil

Holly 2:

Worksheet in three sections

Observational skills:
Lead the birds to the berries – draw lines from bird to berry.

Counting and observational skills:
Pupils count the number of prickles in each holly leaf and write each total below each leaf.

Knowledge and remembering lesson on holly taught by teacher:
Birds are thrush, blackbird, robin, swallow and heron. Only thrush and blackbird eat berries (robins, herons and swallows don't).

Rabbit 1
Worksheet in three sections

Knowledge test:
Rabbits live in a burrow (not in a nest or a web)

Logic skills:
Pupils find the right string that leads the rabbit to its burrow.

Manual dexterity:
Pupils practise colouring.

Rabbit 2:
Make-and-do worksheet

Manual dexterity, colouring and writing:
This worksheet, when folded in four, forms an Easter card. Pupils colour it in and write on the four sections, as indicated. They can colour in the border on each page too.

Swan 1
Worksheet in three sections

Writing practice:
Pupils practise writing the word swan

Observational skills:
Spot the difference – three mute swans with s-shaped necks and one whooper swan with a straight neck and black-tipped bill.

Drawing skills:
Pupils finish drawing the swan, then colour it in.

Swan 2
Worksheet in three sections

Scientific knowledge:
Basic food chain – a swan only eats weeds in water and bread. It does not eat fish or ducks as it is a herbivore.

Manual dexterity:
Pupils cut out the swans and stick them in the picture provided – one in the air and one on the water.

Spider 1
Worksheet in three sections

Writing practice:
Pupils practise writing the word spider

Logic skills:
Find a way through the maze to the centre.

Drawing skills:
Pupils carefully and accurately finish drawing the spider. (N.B. all legs are attached to head section).

Spider 2
Worksheet in three sections

Observational skills:
Pupils join, with lines, the matching sets of spiders

Drawing skills:
Pupils join the dots and complete the spider's web.

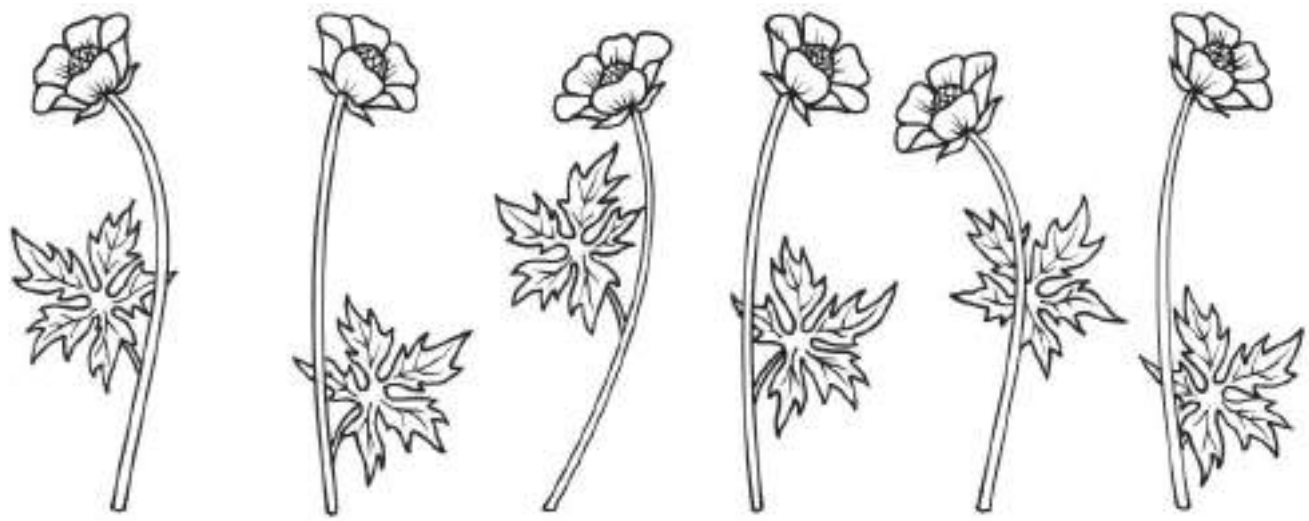
Manual dexterity:
Pupils cut out and paste flies into drawn web.

Write 'buttercup'.

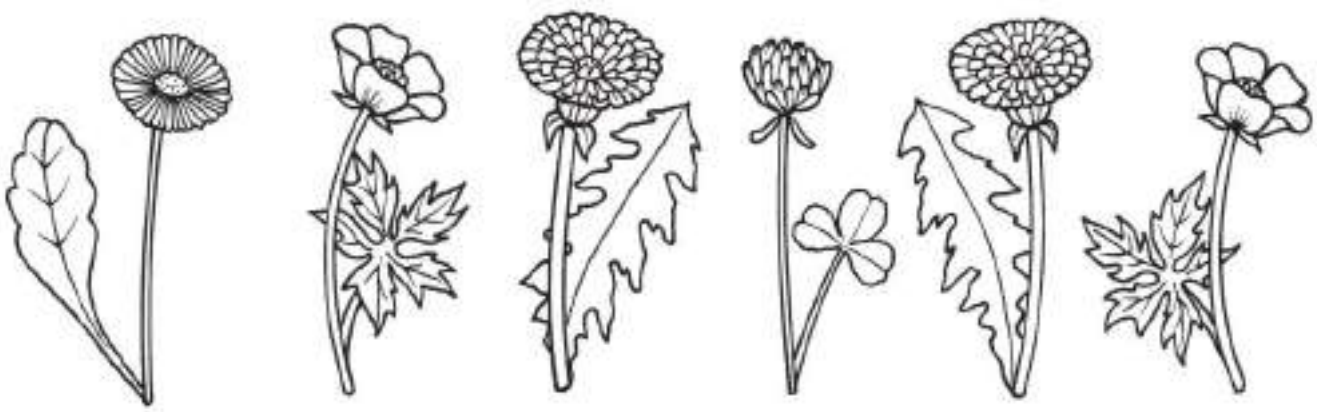
buttercup

How many 'u's? **How many 't's?** **How many 'b's?**

Colour 4 of the buttercups.



Circle the buttercups.



Fill in the missing letters.

b u t t e r c u p

b _ t _ e r _ u p

Bring in a buttercup.

How many petals?

Stick on the buttercup.

Finish the buttercup drawing.

Write 'white clover'.

white clover

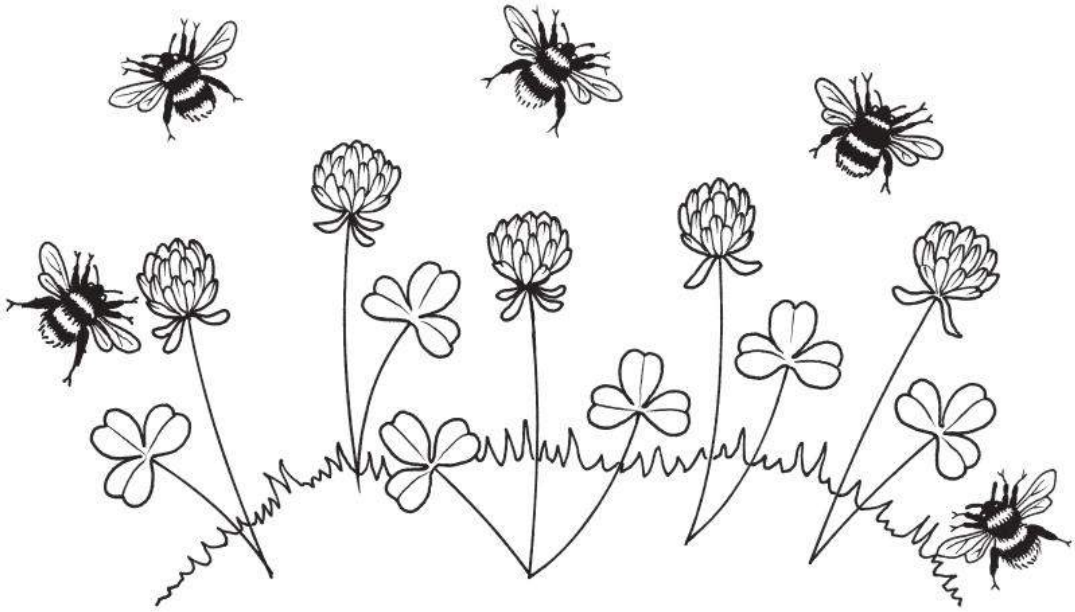
1. How many letters in 'white'?

2. How many letters in 'clover'?

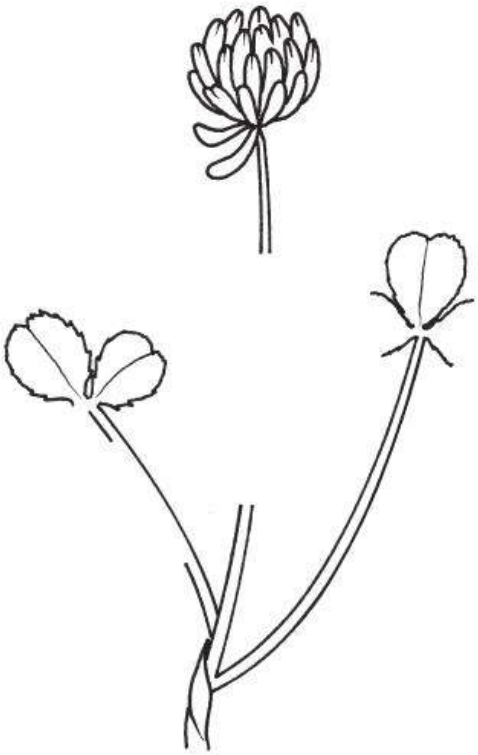
3. How many letters altogether?

1. 2. 3.

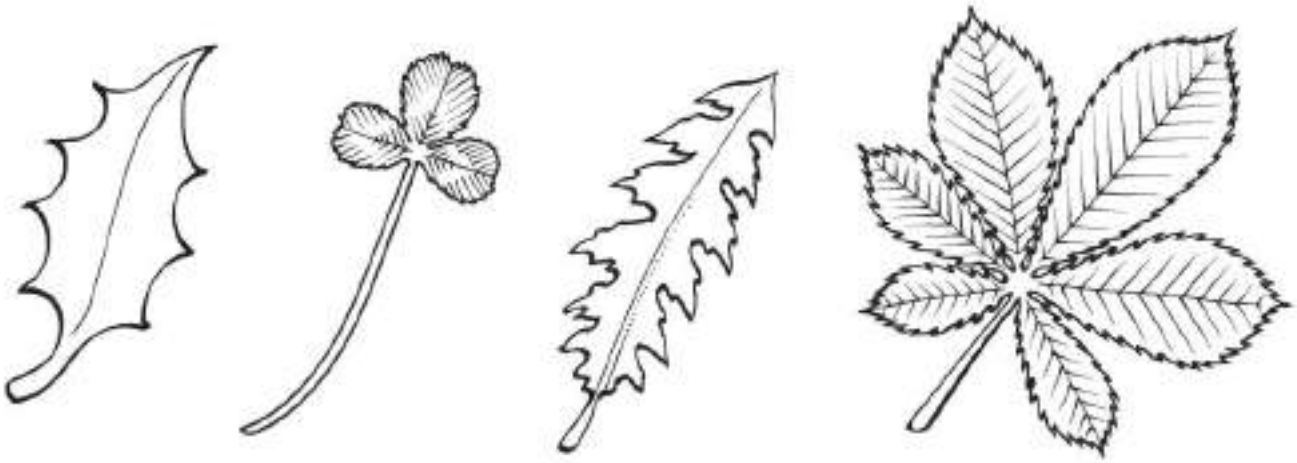
Lead the bees to the clover.



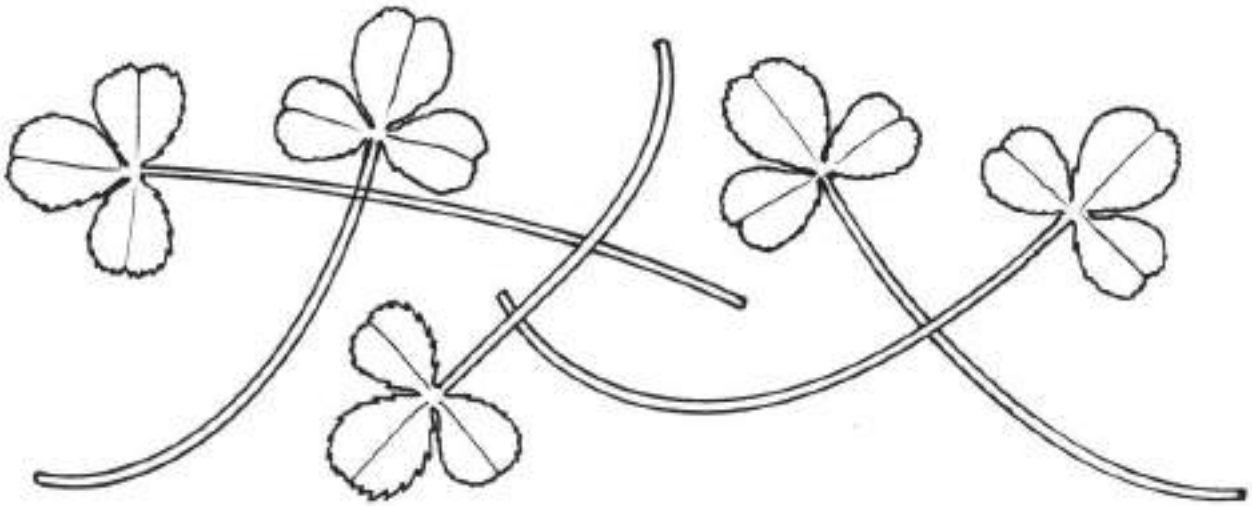
Finish the clover drawing.



Circle the clover leaf.



Count the clover leaflets.



Find a clover flower with a leaf and stick it to the page.

Write 'holly'.

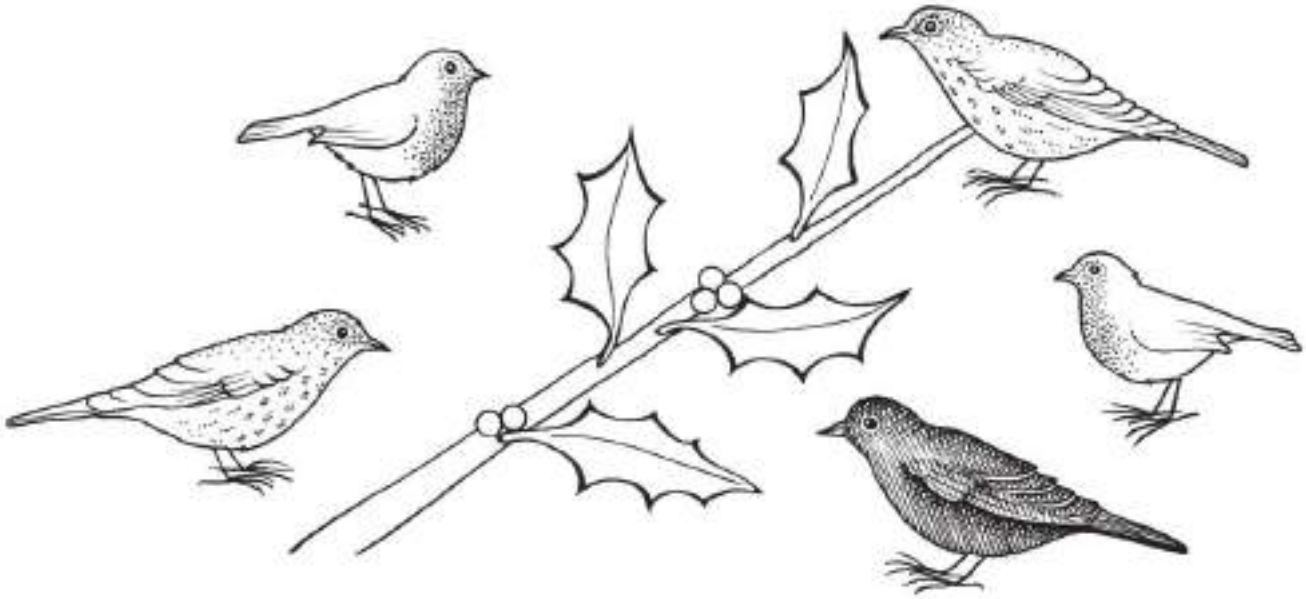
holly holly

How many holly berries?

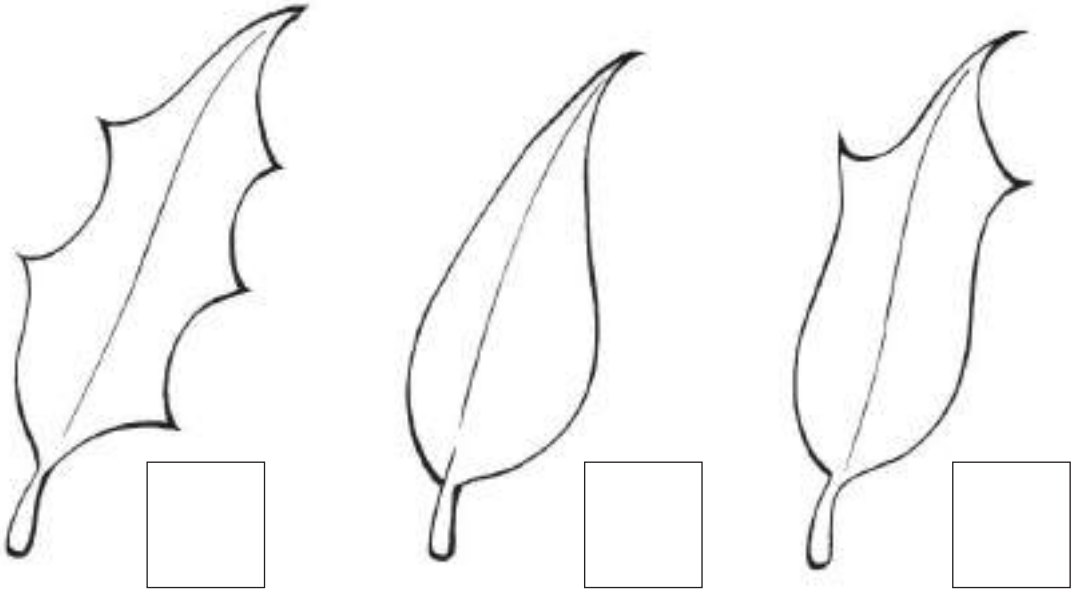
How many holly berries?

Colour the holly twig and berries.

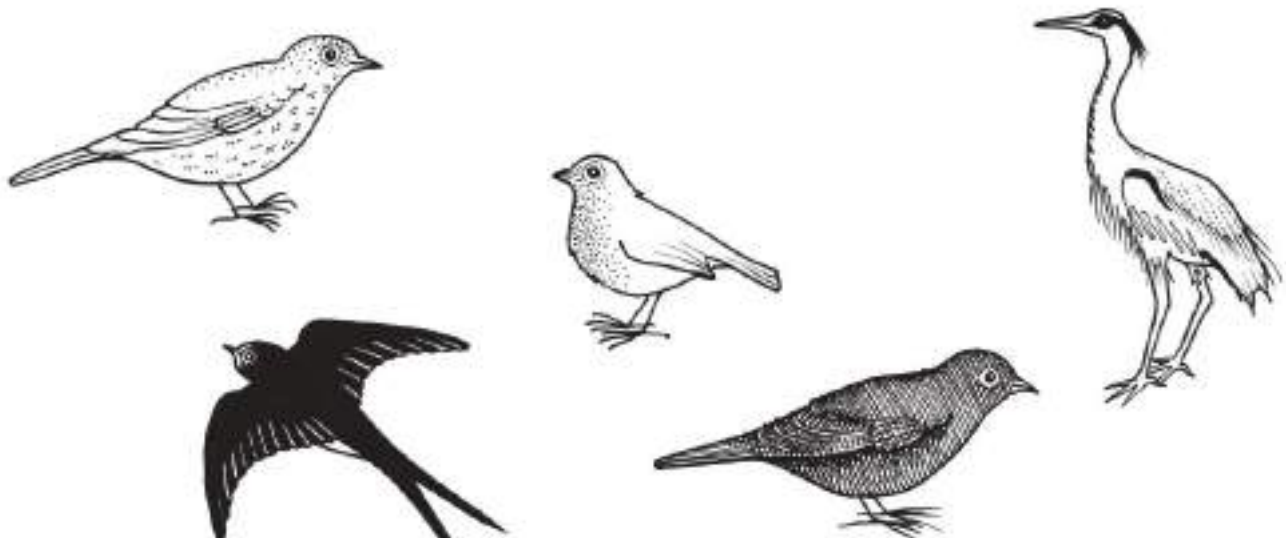
Lead the birds to the berries.



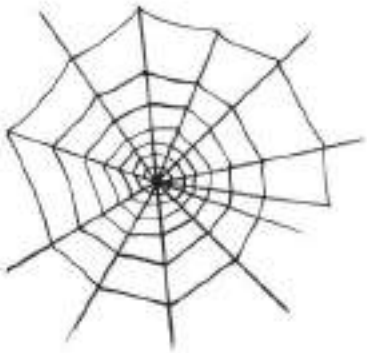
Count the prickles on the holly leaves.



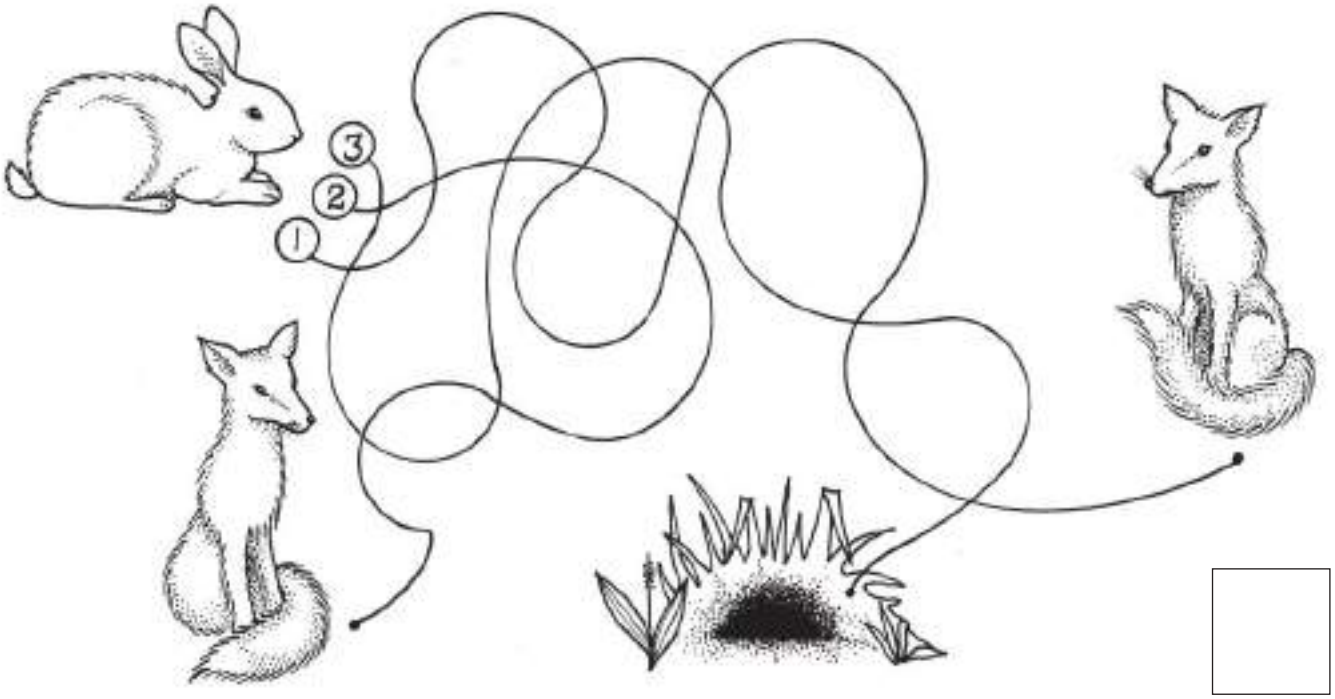
Circle the birds that don't eat berries.



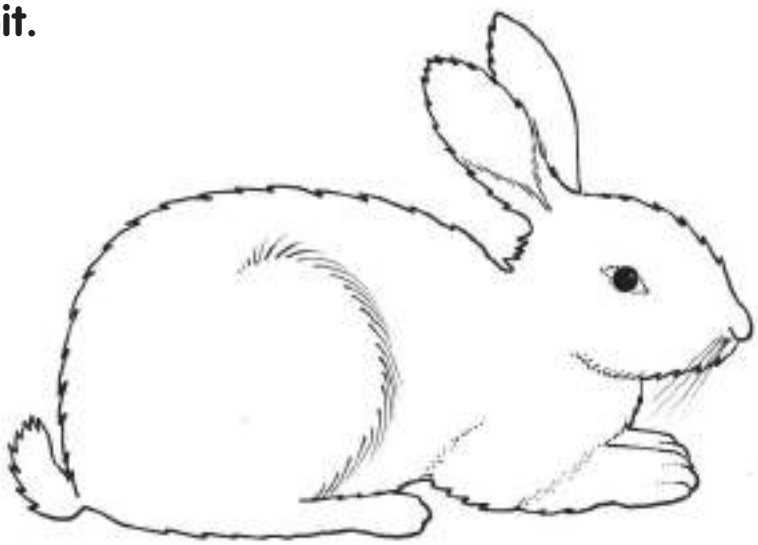
Lead the rabbit to its home by drawing a line.



Which string will lead the rabbit home?
Put the number in the box.



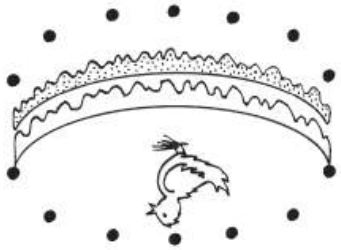
Colour the rabbit.

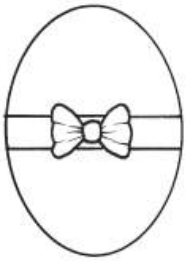


Make an Easter card. Write 'Happy Easter' on the front. Join the dots to finish drawing the Easter cake. Colour the card and fold it.

From _____

To _____

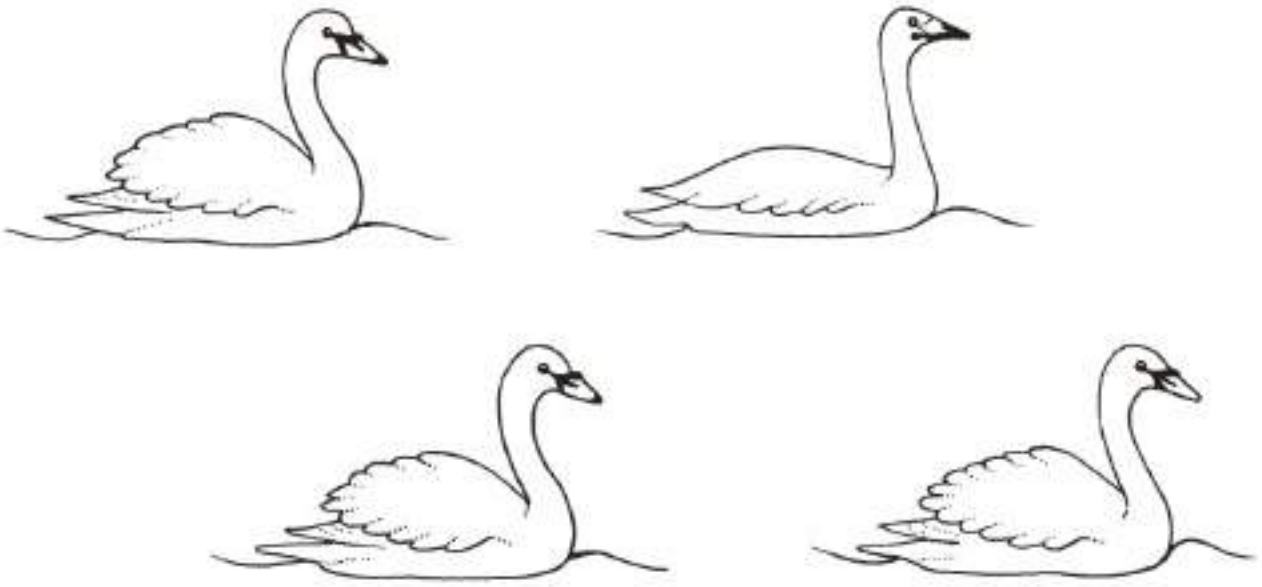




Write 'swan'.

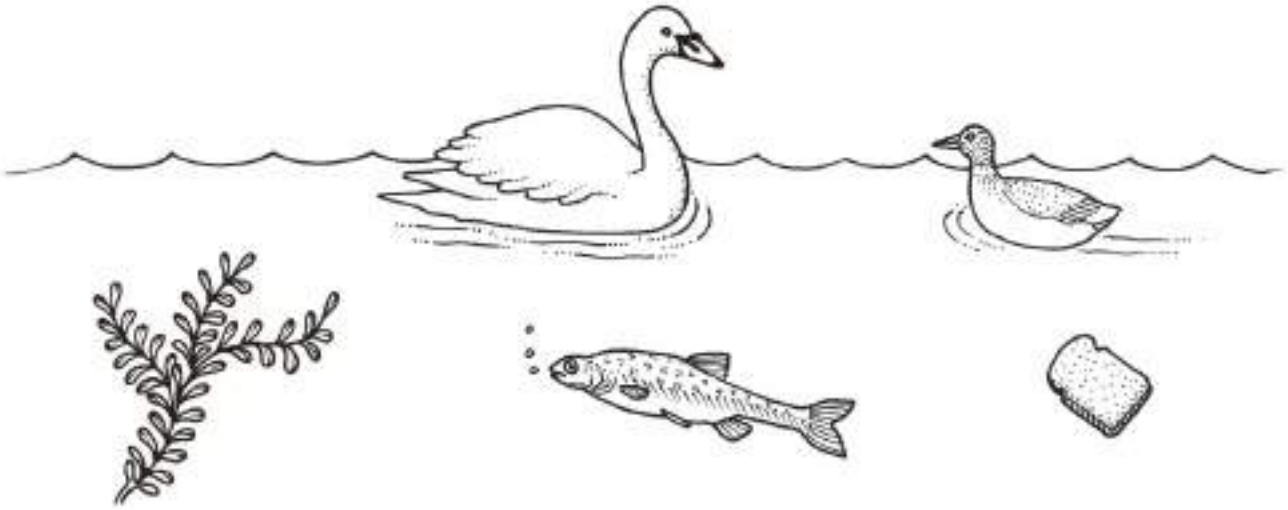
swan swan

Circle the odd one out.

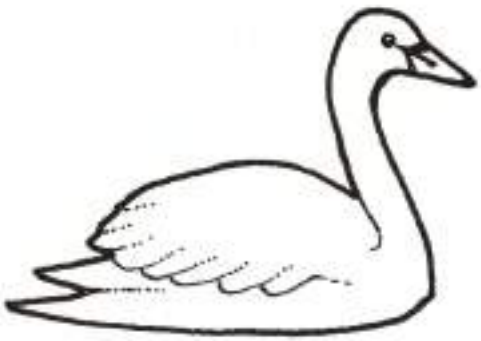


Finish drawing the swan and then colour it in.

Draw a line from the swan to its food.



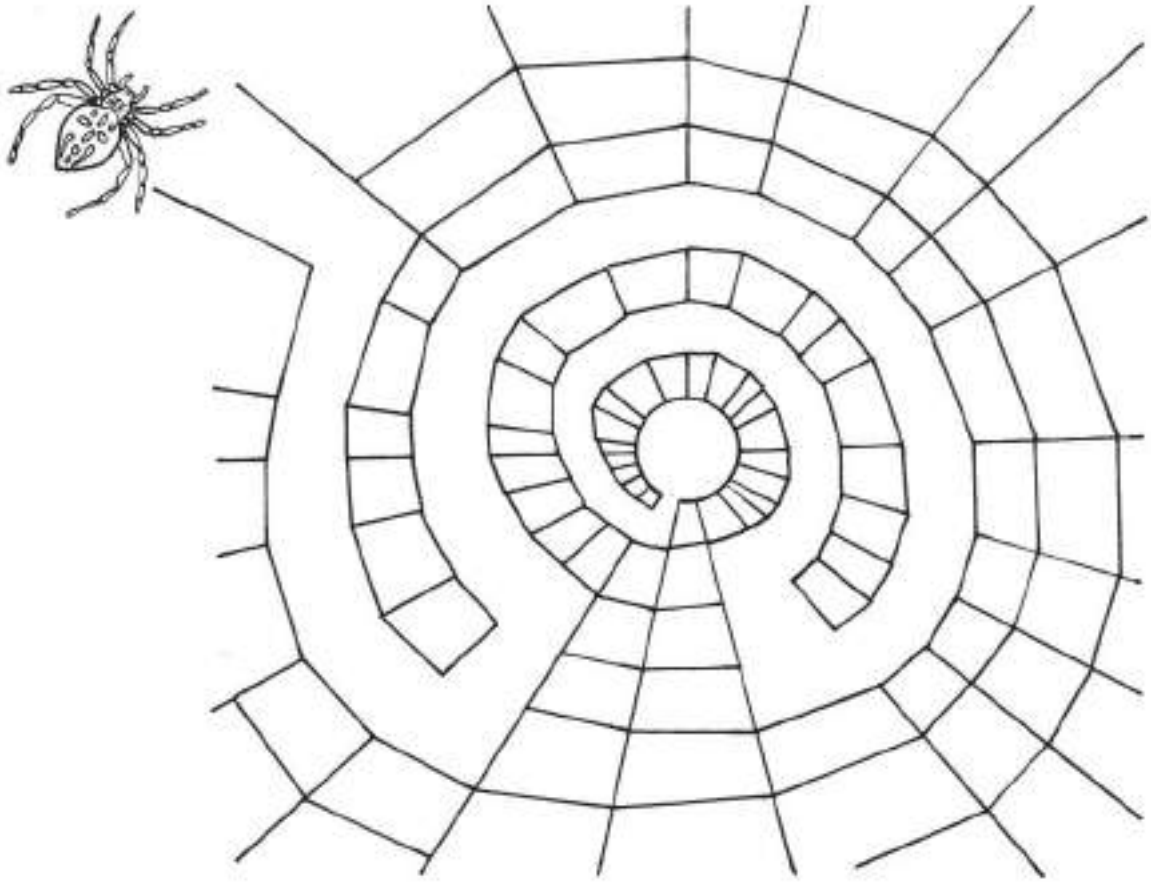
Cut out these swans and stick them on to the picture above.



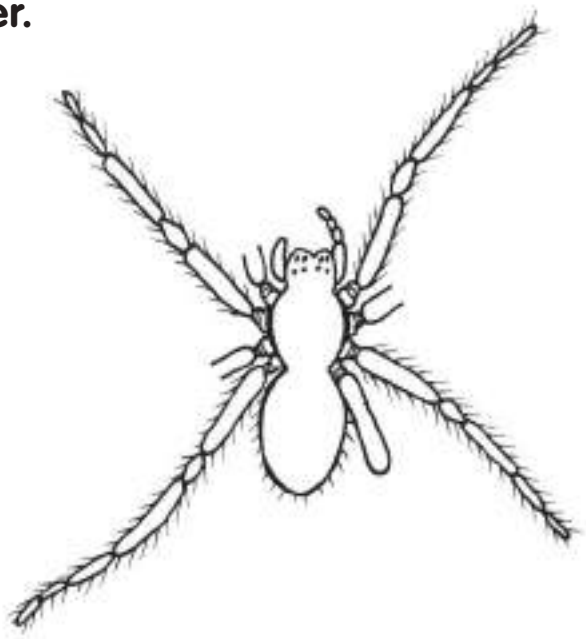
Write 'spider'.

spider

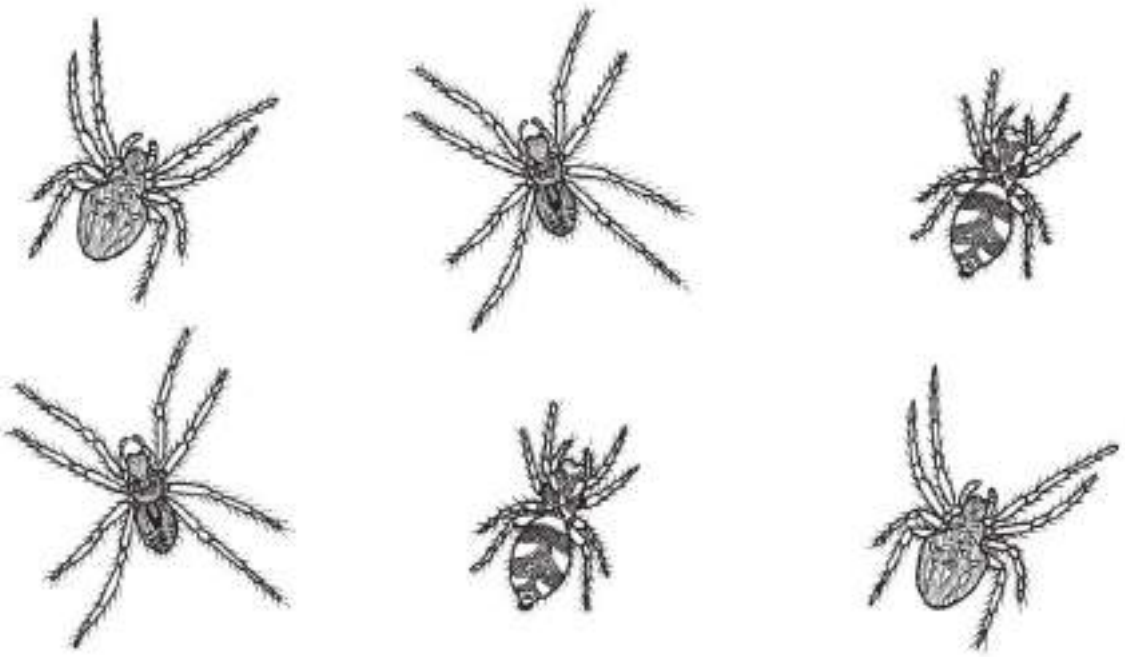
Help the spider find its way home.



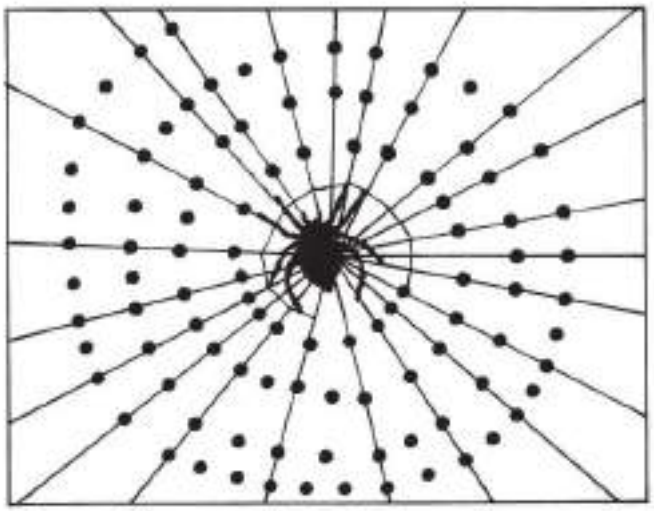
Finish drawing the spider.



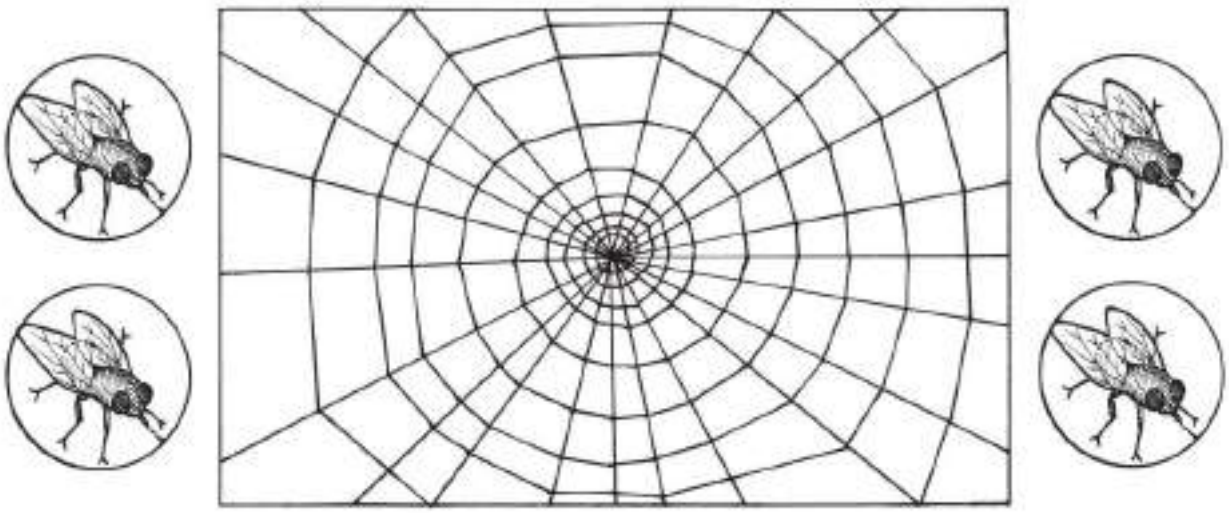
Match these spiders by drawing a line between similar ones.



Help the spider finish its web by joining the dots.



Cut out the flies and stick them to the web.



Introduction to 1st Class Worksheets

Primrose

Bluebell

Oak

Fox

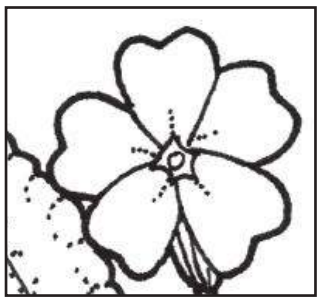
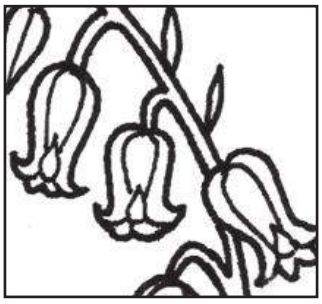
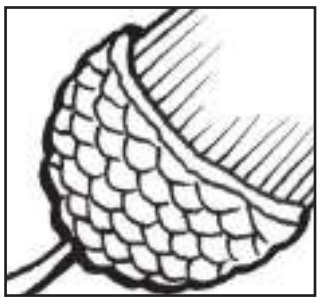
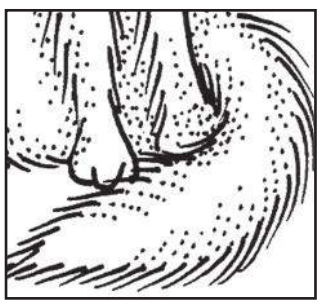
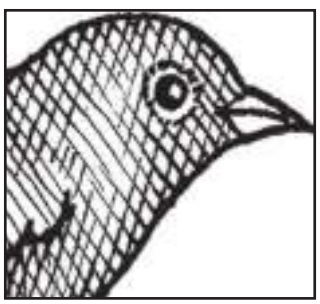
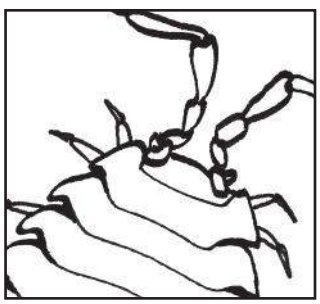
Blackbird

Woodlouse

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly. Return any animals collected to the wild. It is not necessary for the worksheets to be done in the order in which they are given.

There is also an emphasis on food chains and how animals live in the wild so that completing the worksheets adds to the children's knowledge. Plants and animals they have learned in the infant classes may appear again so that the knowledge they had is revised and built upon. The worksheets are designed to be photocopied and handed out to the pupils.

1st Class Teacher Notes

Primrose 1

Worksheet in three sections

Writing practice:
Pupils practise writing the word **primrose**

Classification:
Pupils identify the primroses from a group of flowers. They should be able to name the rest as they have learned them while in Infants.

Making words:
How many words can they make from the letters **primrose**?

Primrose 2

Worksheet in two sections
(Do this when primroses are in flower)

Fieldwork outdoors and manual dexterity:
Pupils find primroses growing outside in a hedge. Each child collects one flower and one leaf and sticks it into the space provided. (Sellotape can be used here).

Accurate drawing:
Pupils should be encouraged to do an accurate drawing of a primrose and a leaf with the correct number of petals.

Bluebell 1

Worksheet in four sections

Writing practice:
Pupils practise writing the word **bluebell**

Fieldwork outdoors and manual dexterity:
Pupils find bluebells growing outside in the hedge. Each child collects one flower and one leaf and sticks it into the space provided. (Sellotape can be used here).

Accurate drawing:
Pupils should be encouraged to do an accurate drawing of a bluebell and a leaf. The drawing has been started for them – they can colour it in with the correct colours.

Test of observational skills:
Where do bluebells grow? They can pick more than one answer from the word bank

Bluebell 2

Worksheet in two sections

Classification and revision:
Matching the flower to the leaf – primrose and bluebell from this year and clover from last year.

Art and manual dexterity:
Pupils make a picture that can be stuck on to a Spring greeting card. The bluebells are coloured and cut out. Then they are stuck into the slot on the plant pot and all are coloured in to form part of a greeting card.

Oak 1

Worksheet in two sections

Classification and recognition:
Pupils fill in the names of the parts of the tree in the boxes provided. They choose from a selection of words in the word bank.

Classification and revision:
Pupils match the seeds to the leaves – they can name them too.

Oak 2

Worksheet in two sections

Learning about food chains:
With a pencil line, the pupils join the acorn to whatever eats it – (squirrel, rook and mouse)

Word recognition:
Word search – pupils find all the words that are listed in the word bank. They are either horizontal or vertical in the word search.

Fox 1

Worksheet in three sections

Drawing and colouring skills:
Pupils join up the dots to complete the fox and then colour it in carefully

Logic skills:
Pupils find the way through the maze for the fox to reach his den.

Writing and learning:
A fox lives in a _____ Don't tell them the word – it was written for them in the maze exercise.

Fox 2

Worksheet in two sections

Ecological knowledge:
A fox food chain – pupils have to join the dots in each picture to find out that a fox eats apples, chickens, rabbits and mice.

Applying knowledge:
Pupils then apply this knowledge to filling in the food chains. There are three levels in each, with the fox in the highest level in each case. The words they need are in the word bank provided.

Blackbird 1

Worksheet in two sections

Writing practice:
Pupils practise writing the word **blackbird**

Observational skills:
Pupils have to look closely at the picture to detect the hidden blackbirds. They can colour them in as they find them.

Blackbird 2

Worksheet in two sections

Demonstration of knowledge of a blackbird's life cycle:
Pupils do this by putting the pictures in the right order – blackbird singing to attract a mate, building a nest, eggs in nest, eggs hatching, big birds in nest and, finally all three blackbirds in flight. They should number the pictures in the right order.

Word search:
The word search is all based on things blackbirds eat. The words are either horizontal or vertical and are all given in the word bank.

Woodlouse 1

Worksheet in three sections

Writing practice:
Pupils practise writing the word woodlouse

Observation and counting:
Pupils observe the picture provided and write the numbers of legs (14), antennae (2) and tails (4) in the boxes provided.

Writing and knowledge of a how a woodlouse lives:
The words needed for the answers are given in the word bank.

Woodlouse 2

Worksheet in three sections

Field work:
Pupils go outside and find woodlice. These live in the woodpile, in dead leaf litter, under flower pots, under big stones, etc. Use a "bug" viewer with a magnifying lid to see the creatures better.

Drawing:
On return to class, pupils can complete the drawing and colour in the woodlouse correctly.

Food chain:
The animals that eat woodlice are drawn and their names are in the word bank.

Write 'primrose'.

primrose _____

Find the primroses.

Name the others.

primrose	dandelion	daisy
clover	buttercup	

How many words can you make from primrose?

_____ _____ _____

_____ _____ _____

_____ _____ _____

Find a primrose flower and a primrose leaf and stick them to the page.

flower

leaf

Draw and colour in a primrose flower and a leaf.

flower

leaf

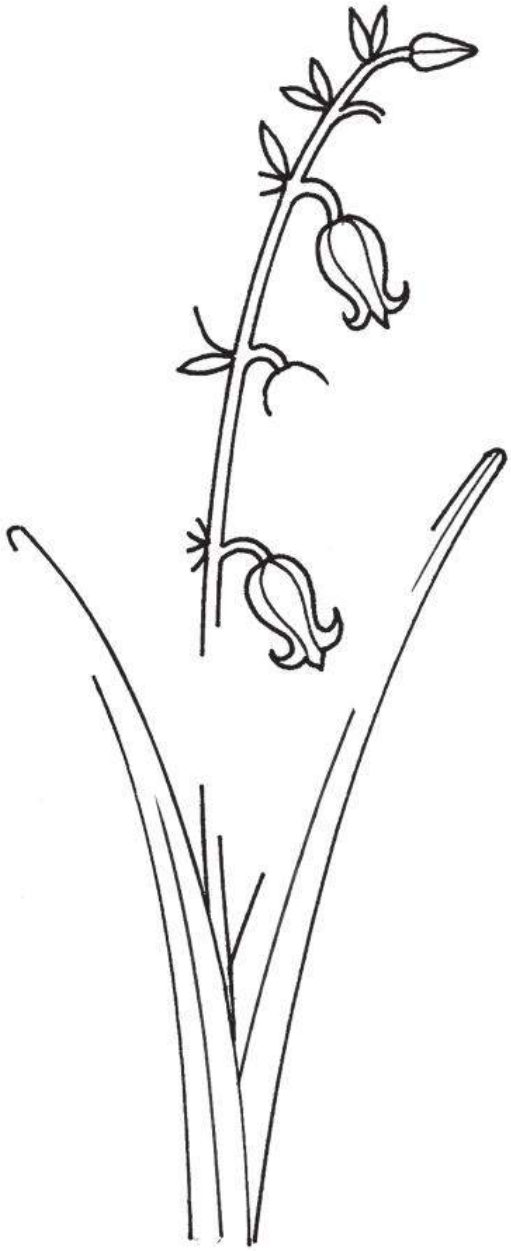
Write 'bluebell'.

bluebell _____

Go out and find a bluebell flower and a bluebell leaf and stick them to the page.

flower

leaf

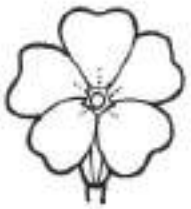


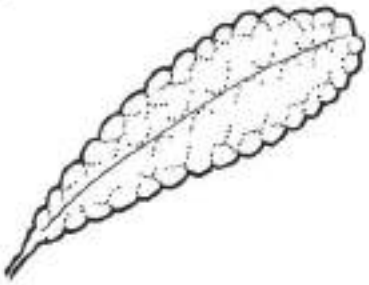
Finish the drawing and colour it in.

My bluebell came from a _____.

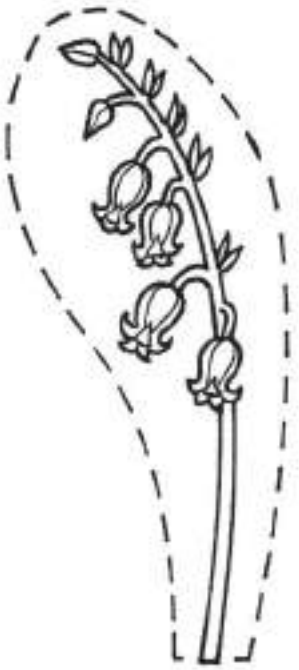
lake	**park**	**garden**	**wood**

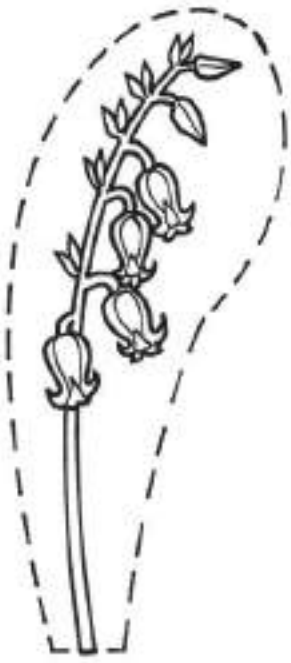
Match the flower to the leaf.

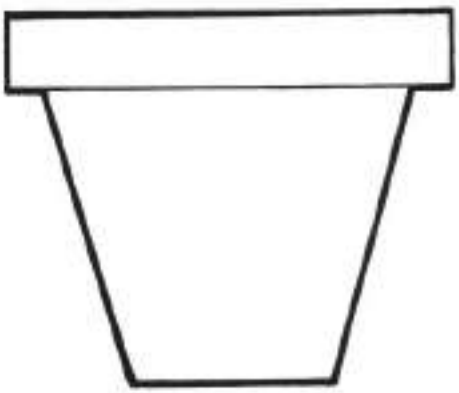




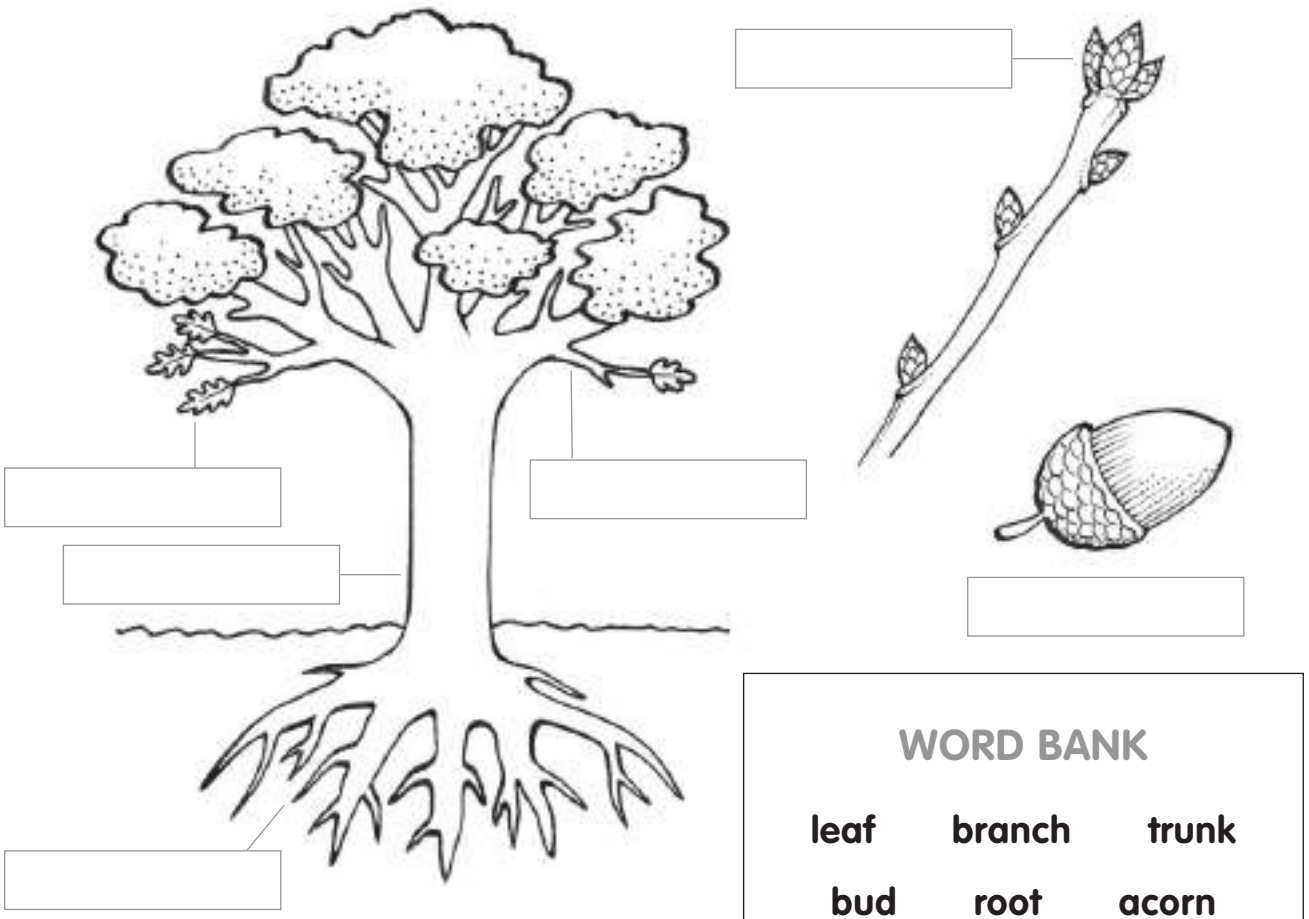
Colour in and cut out the flowers and flower pot.
Use these to make your own card for spring.







Name the parts of the tree.

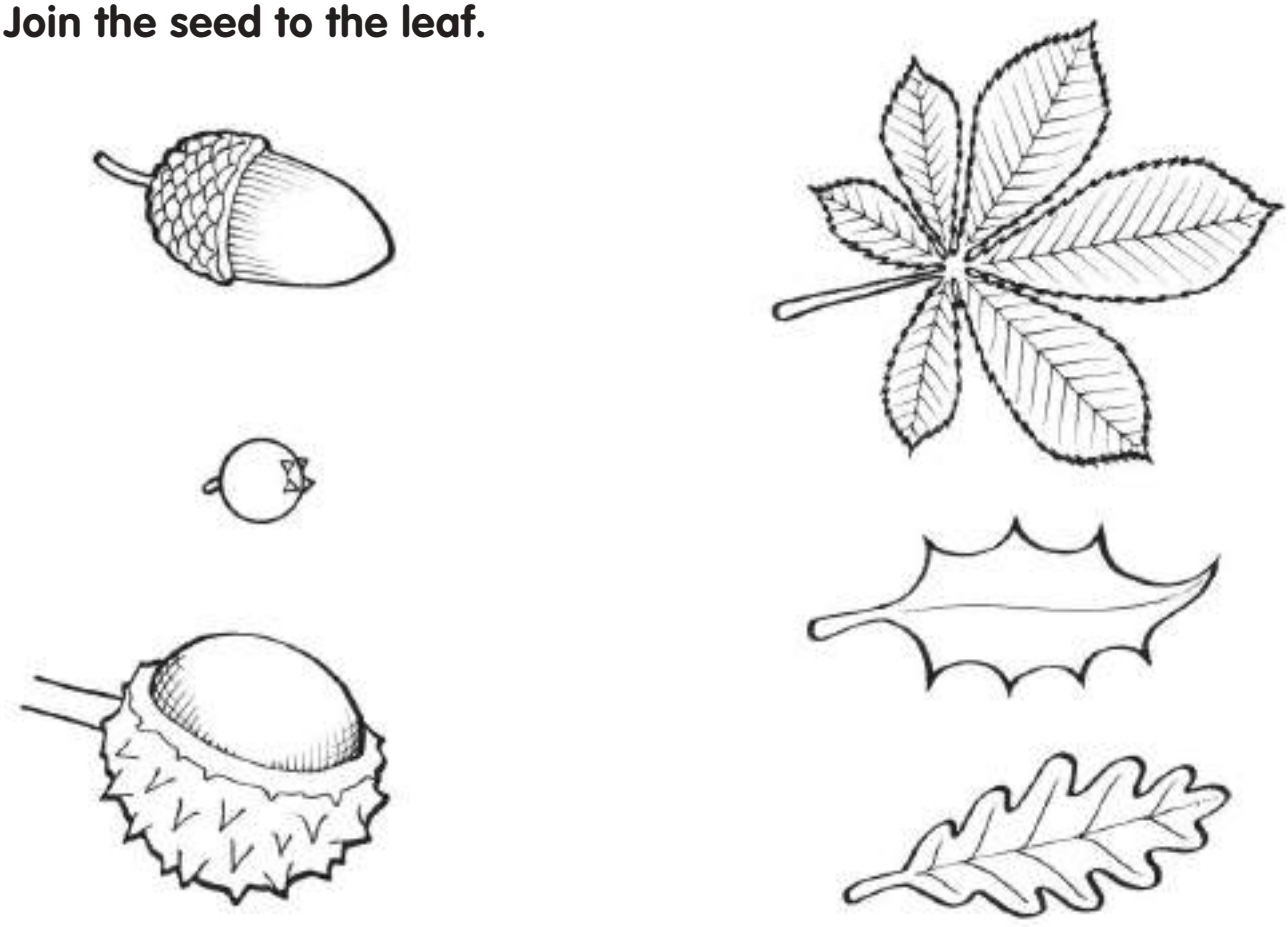


WORD BANK

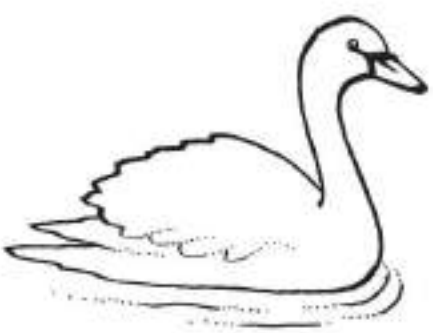
leaf branch trunk

bud root acorn

Join the seed to the leaf.



What eats acorns?



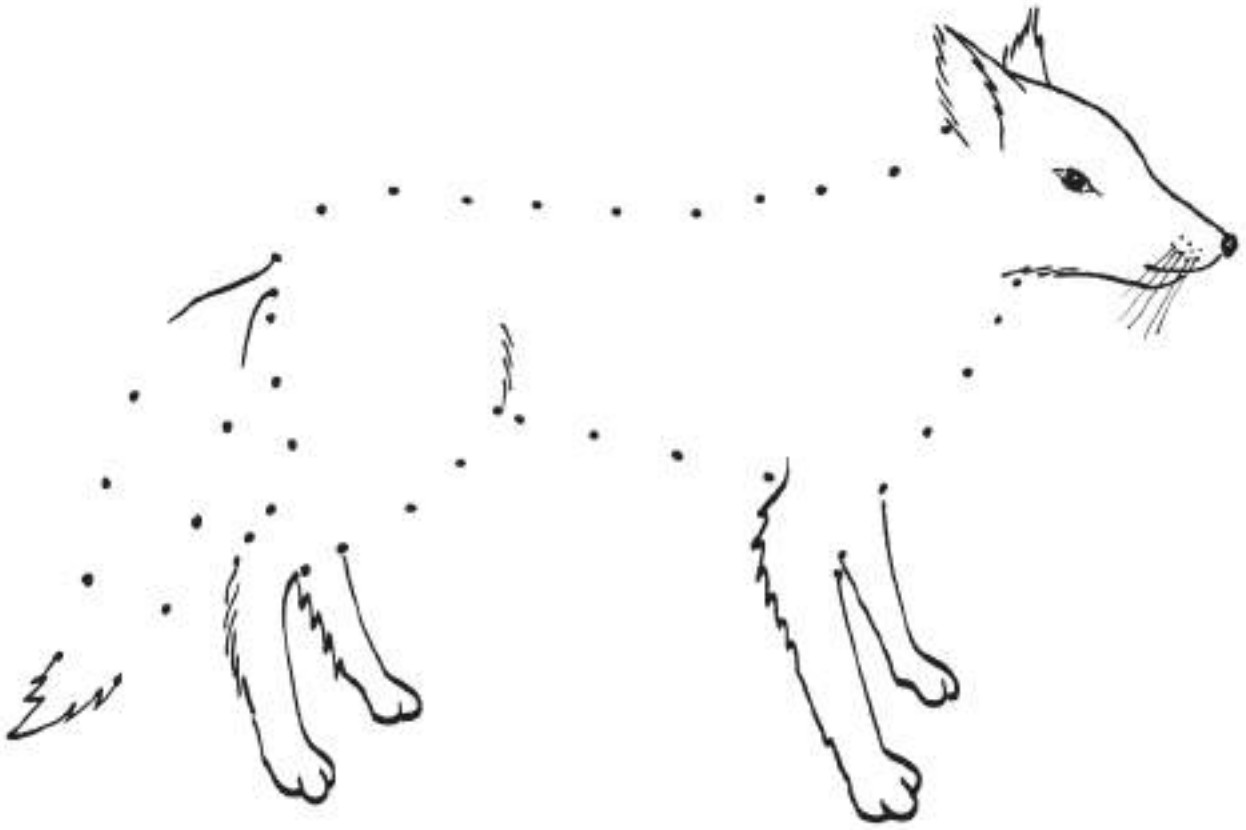
Wordsearch.

l	e	a	f	r	o	o	t	o
b	u	d	a	a	o	r	t	a
r	e	a	c	o	r	n	r	k
t	r	u	n	k	c	e	e	n
l	b	r	a	n	c	h	e	b

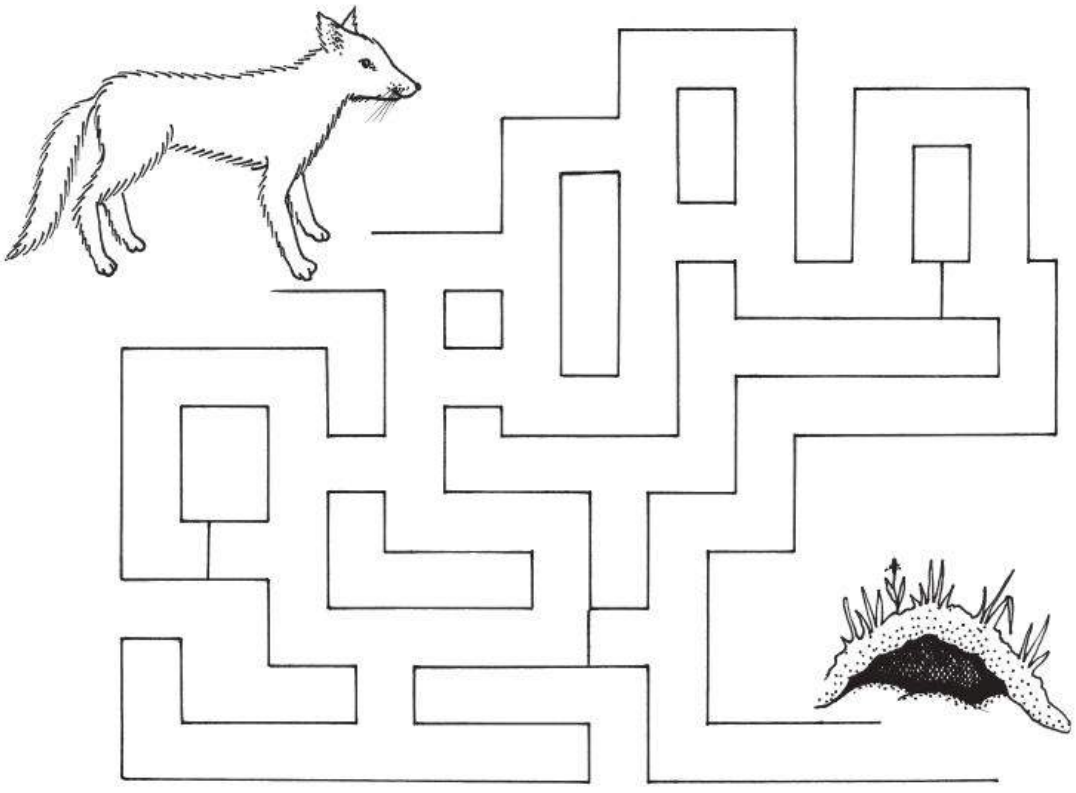
WORD BANK

oak	branch
tree	root
acorn	bud
leaf	trunk

Join the dots to finish this picture of a fox.



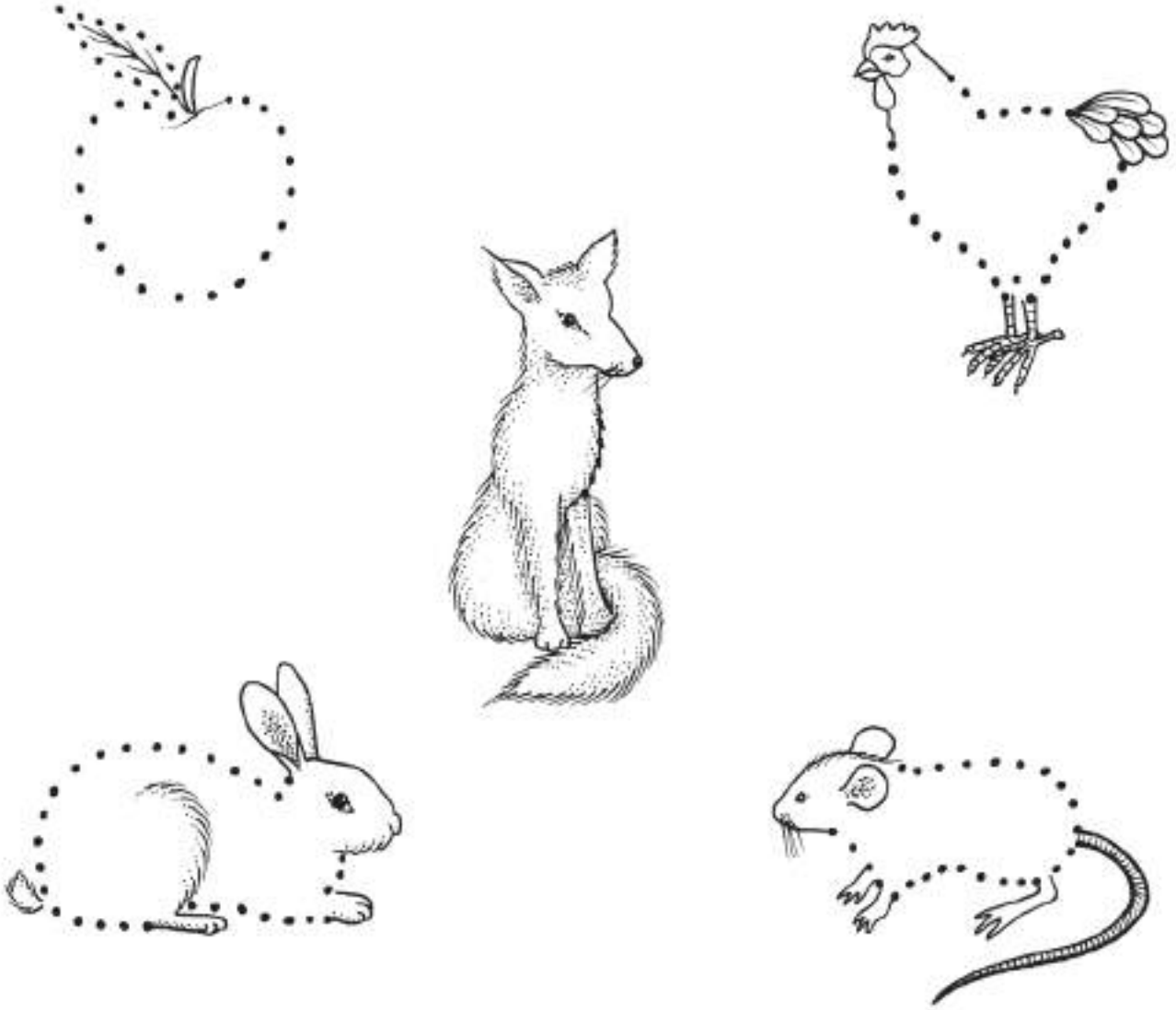
Guide the fox to his den.



Fill in the blank.

A fox lives in a _____.

What a fox eats.



Fill in the food chains.

grass	rabbit	
	mouse	fox
	chicken	

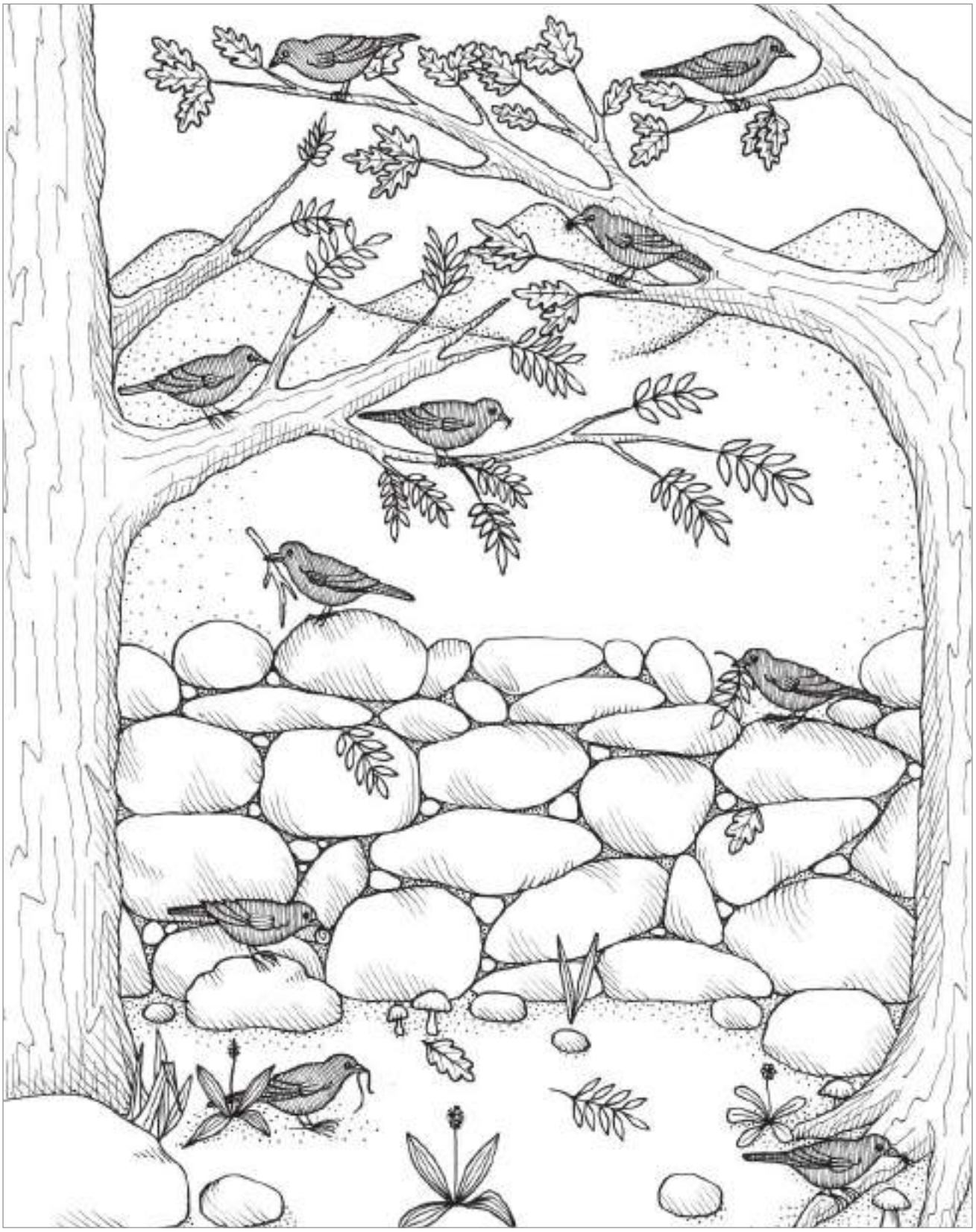
WORD BANK

mouse chicken rabbit fox acorn grain

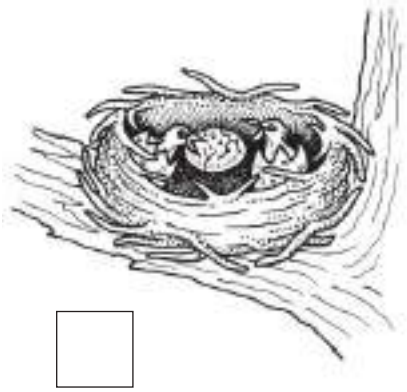
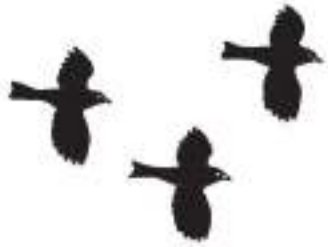
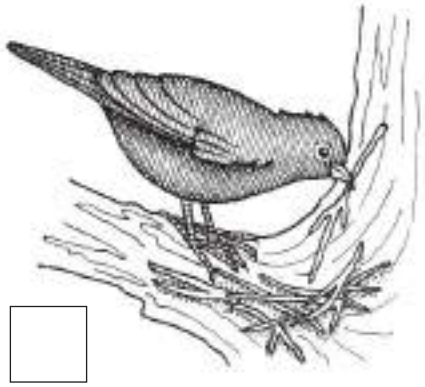
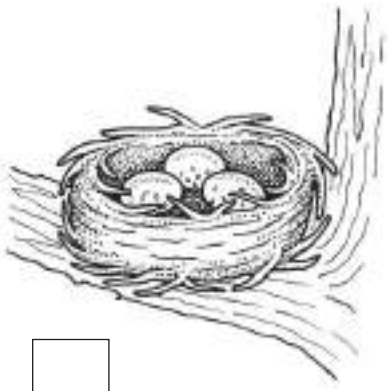
Write 'blackbird'.

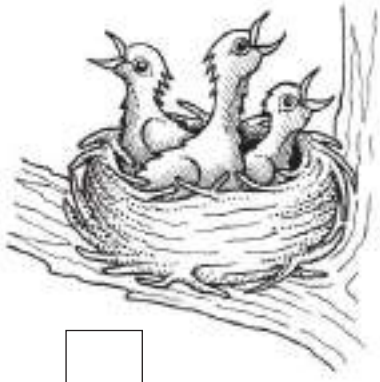
blackbird _____

How many blackbirds can you find in the picture?



Put the pictures in the right order by numbering the boxes 1-6.



Wordsearch. What do blackbirds eat?

s	n	a	i	l	h	b
e	x	p	e	d	r	e
e	s	p	i	d	e	r
d	l	l	a	c	z	r
y	u	e	b	x	n	y
r	g	n	w	o	r	m

WORD BANK

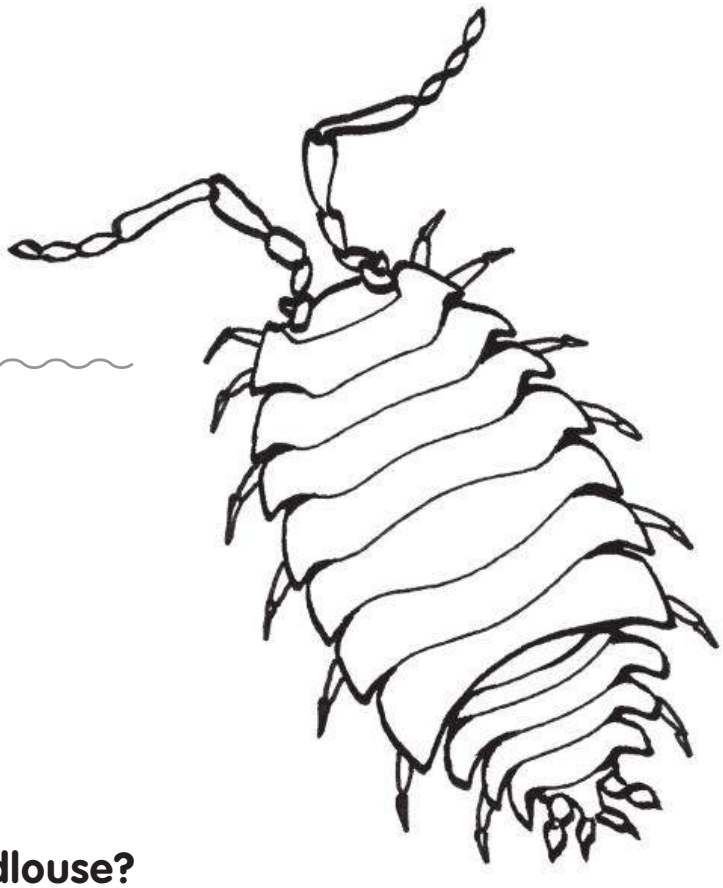
seed berry

spider slug

snail worm

apple

woodlouse



How many legs ☐

tails ☐

antennae ☐

has a woodlouse?

Fill in the blanks.

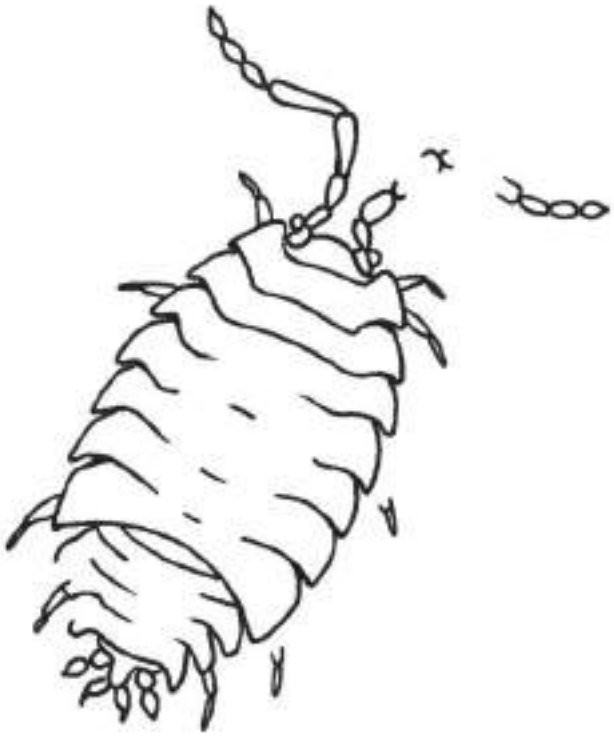
A woodlouse lives under _____ and _____.

A woodlouse eats dead _____ and _____.

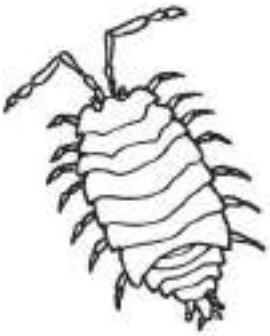
WORD BANK			
plants	stones	flowerpots	wood

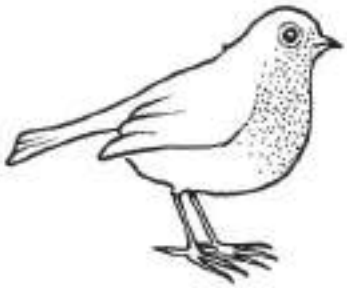
Go outside and find a woodlouse.

Finish the picture.



Name the animals that eat woodlice.





WORD BANK

blackbird **spider** **hedgehog** **robin**

Introduction to 2nd Class Worksheets

Self-heal

Ribwort

Ash

Squirrel

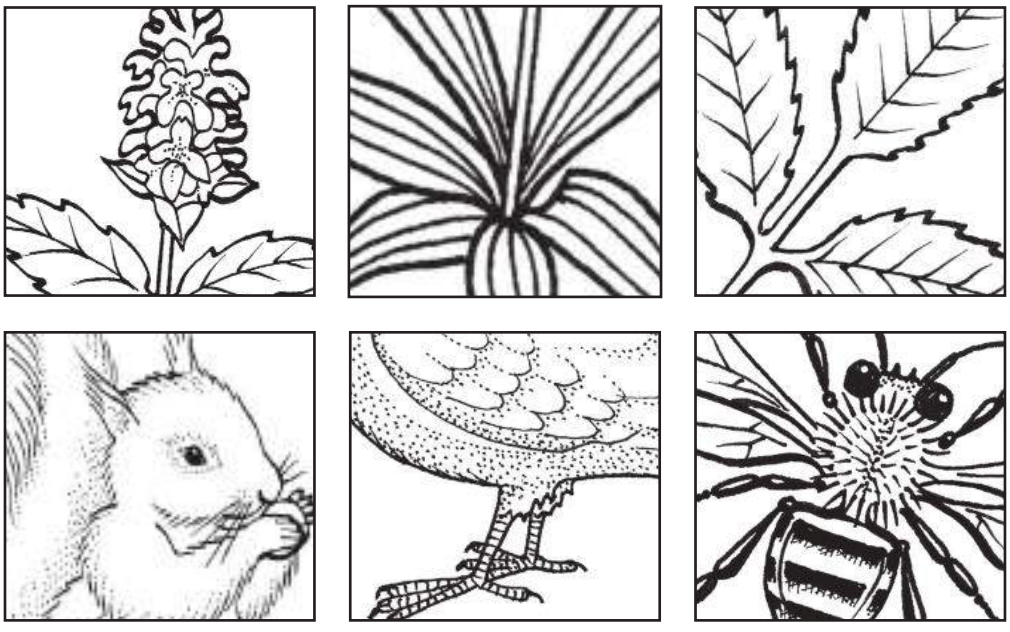
Pigeon

Bee

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly. Return any animals collected to the wild. The worksheets need not necessarily be done in the order in which they are given.

There is also emphasis on food chains and how animals live in the wild, so that completing the worksheets adds to the children's knowledge. By second class, the pupils will have already learned about a considerable number of plants and animals so these work sheets refer to species learned about earlier and act as a form of revision. The worksheets are designed to be photocopied and handed out to the pupils.



2nd Class Teacher Notes

Self-heal 1

Worksheet in two sections

Introduction to plant:
Pupils colour in the self-heal plant and leaves. Show the pictures of the plant to the pupils first so that they know what colour it is.

Making words:
How many words can the pupils make from the letters self heal?

Self-heal 2

Fieldtrip (Do this when self-heal is in flower)

Fieldwork outdoors and manual dexterity:
This is an official fieldtrip to carry out an experiment. Pupils read all the instructions indoors first. They then collect the equipment needed, go outdoors and follow the instructions. They count the different species in the study area and enter the results in the table. Then they decide which species is the most common.

The quadrant should be in an area of the school grounds – i.e. lawn or playing field – where self-heal grows. Teacher should check this out first.

Research:
Why is it called self-heal? Teacher should discuss this with class and get suggestions from them.

Ribwort 1

Worksheet in three sections

Absorbing information provided:
Pupils note what a ribwort looks like and where it grows.

Classification, identification and revision:
Pupils name the flowers in the drawing , colour each one in and write in the table where each one grows in the wild.

Ribwort 2

Fieldtrip

Recognising and finding ribwort:
Ribwort grows in lawns and school fields. Pupils collect a leaf and a flower of ribwort and stick the leaf on to the worksheet in class with sellotape.

Accurate description:
Pupils should give an accurate description – size, shape, parallel longitudinal veins.

Accurate drawing:
Pupils do an accurate drawing of the ribwort flower they have collected

Find out:
Why do they have no petals? They are wind-pollinated so they don't need to attract pollinators.

Ash Tree 1

Worksheet in two sections

Revision:
Pupils name the parts of the tree drawn – the answers are all in the word bank.

Tree life cycle:
Pupils match the months to the descriptions of what is happening to the tree.

Ash Tree 2

Fieldtrip

Fieldtrip:
Go on this fieldtrip in June or September when the leaves on the local ash tree are fully opened.

Counting leaflets:
Not all ash leaves have the same number of leaflets so see what variation there is in the leaves collected.

Accurate drawing and observation skills:
Pupils should be encouraged to do an accurate drawing of the leaf they have collected. On an ash bark, there could be moss, lichen and ivy.

Looking for creepy-crawlies:
Pupils shake the ash leaves into an upturned umbrella and see what falls in. Pooters to suck up delicate creatures can be used to transfer any insects into bug boxes for viewing.

Squirrel 1

Worksheet in two sections

Writing practice:
Pupils practise writing the words **red squirrel grey squirrel**

Observational skills:
Pupils should be able to detect 3 differences between red and grey squirrels from the black and white drawings. Colour is an extra difference.

Revision of knowledge about squirrels:
The answers to the questions are in the word bank

Squirrel 2

Worksheet in two sections

Ecological information:
Pupils fill out food chains – simple ones first, just the squirrel and his food and then, after seeing the drawing of the pine marten, the whole food chain.

Find out:
Where is the nearest place to the school that squirrels live.

Pigeon 1

Worksheet in two sections

Observation and comparison:
Pupils describe the differences in the drawing between the named parts of the wood pigeon and the feral pigeon. They then have to find out about their colour and their call.

Word search:
Two of the words are diagonal. The rest are vertical or horizontal. Answers are in the word bank.

Pigeon 2

Fieldtrip to see pigeons

Pigeons are very common birds – feral pigeons in towns and wood pigeons in rural areas. Show the pupils the photographs before going out.

Identification and observational skills:
What pigeons did they see and what were they like? What were they doing? How many were seen?

Food Chain:
Pupils identify and name the drawings in the food chains illustrated.

Bee 1

Worksheet in three sections

Writing practice:
Pupils practise writing the words bumble bee honey bee

Observational skills:
Pupils spot the differences between the drawn honey bee and bumble bee.

Information about bees:
Pupils fill in the sentences using the words in the word bank.

Bee 2

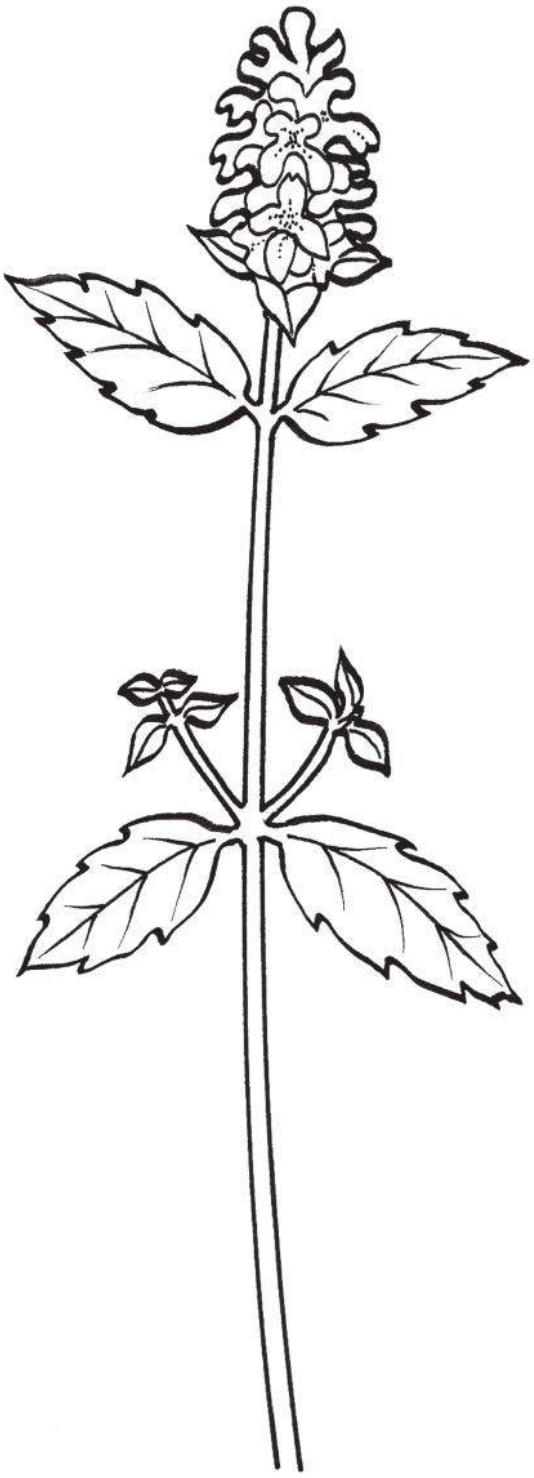
Fieldtrip to see bees

Observational skills:
Bees visit flowers on dry sunny days so make sure there are flowers to visit and that it is a dry day. Both honey bees and bumble bees may come. Encourage the children to stay quiet and observe the bees who will be busy visiting the flowers.

Bees collecting pollen will have yellow pollen baskets on their back legs. Bees collecting nectar stick their heads well into the flower as the nectar is hidden deep in the flower. Encourage the children to stay quiet, be patient and observe.

Improving the environment for bees:
Planting more nectar-bearing flowers. Bees love herbs such as sage and rosemary as well as flowering shrubs such as pyrocantha and hawthorn.

Colour the picture correctly. It has purple flowers and leaves.

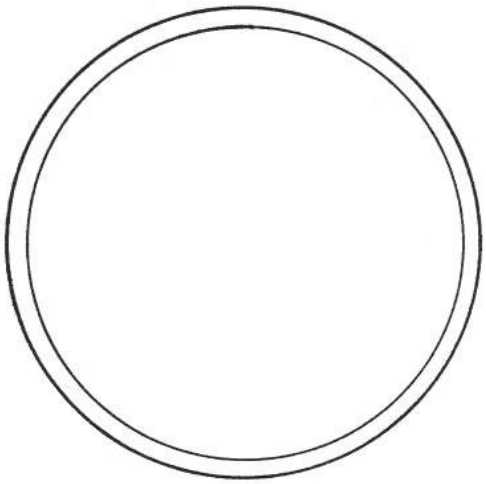


Why is it called 'self-heal'?

How many words can you make from 'self-heal'?

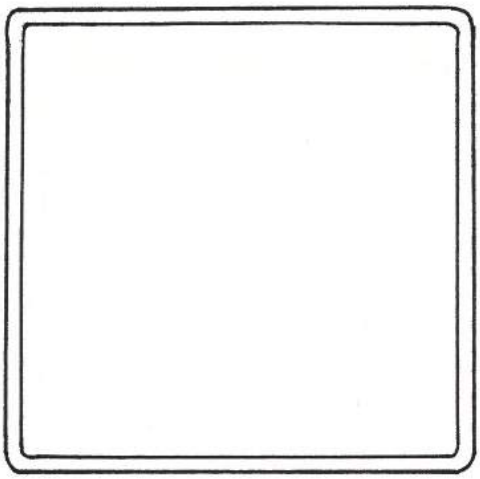
_____	_____	_____
_____	_____	_____
_____	_____	_____

Self-heal field trip. You will need:



hoop

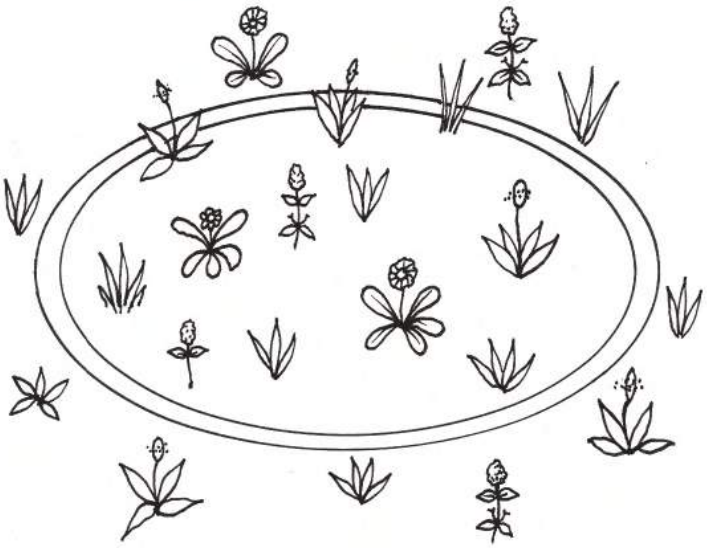
or



quadrat

Go outside and put the hoop or quadrat on a grassy area.
List the plants in the hoop that you know.

Plants	Number



Which plant is the most common? _____

Which plant is the least common? _____

Ribwort grows in grassy places.

Name the following flowers. Colour in the pictures.

Where do they grow?

Field	Hedge

Ribwort field trip. Go out and find ribwort.

We found ribwort in _____.

Collect a ribwort leaf and stick it here.

Describe the leaf.

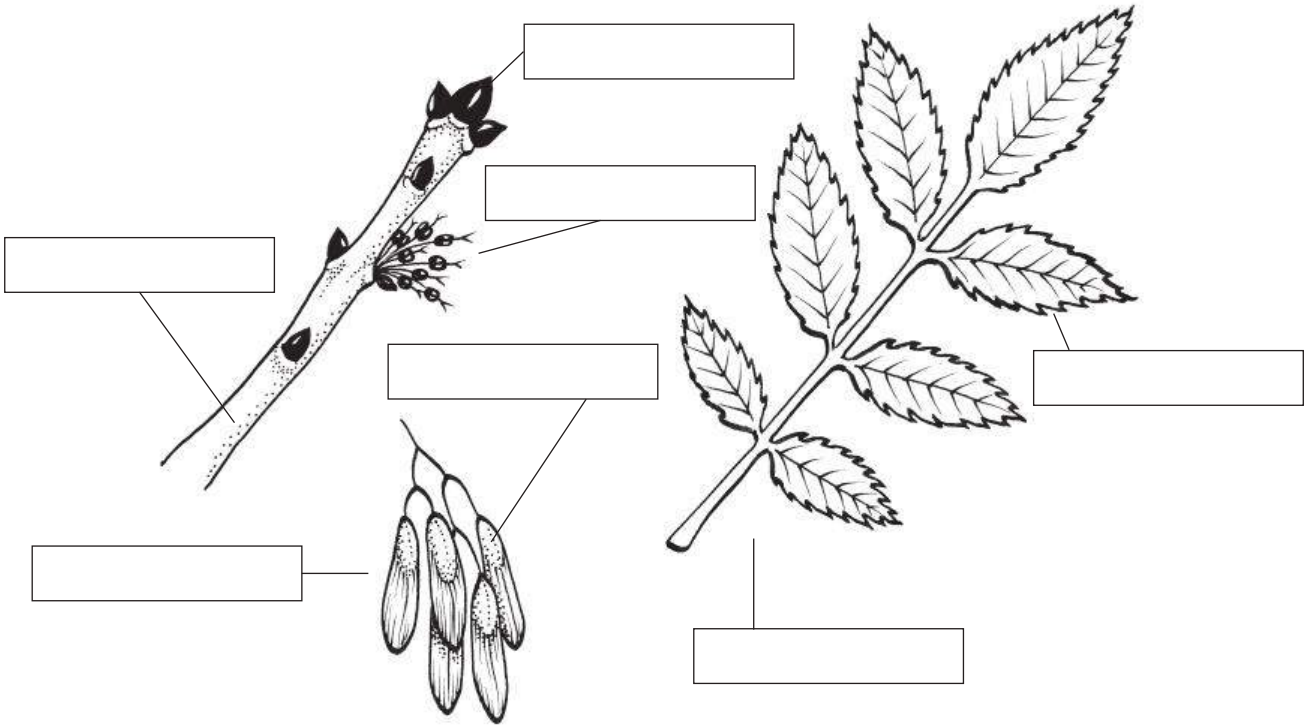
The ribwort leaf is _____

_____

Draw the ribwort flower.

Why has it no petals?_____

Name the parts of the ash tree.



WORD BANK						
leaf	leaflet	bud	twig	seed	flowers	keys

Join the month to the event.

January	full leaf cover
April	flowers on twigs
May	leaf fall
June	buds burst into leaf
August	seeds form
September	leaves turn golden
October	bare buds

Go on a field trip to see an ash tree.

Our ash tree grows in _____ .

My ash leaf has _____ leaflets.

Draw your ash leaf here.

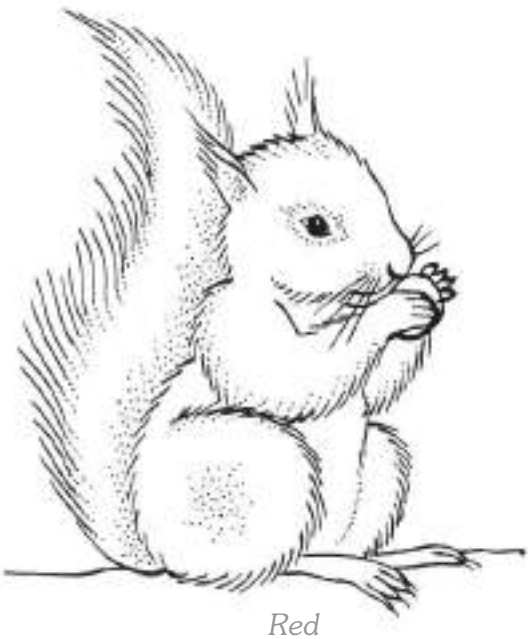
_____ was growing on the bark of our ash tree.

We found _____ on the leaves.

Write:

Red squirrel _____

Grey squirrel _____



Red

Grey

Write three differences between red and grey squirrels.

1. _____

2. _____

3. _____

Finish the sentences.

A squirrel lives in a _____.

All squirrels eat _____.

Squirrels do not _____.

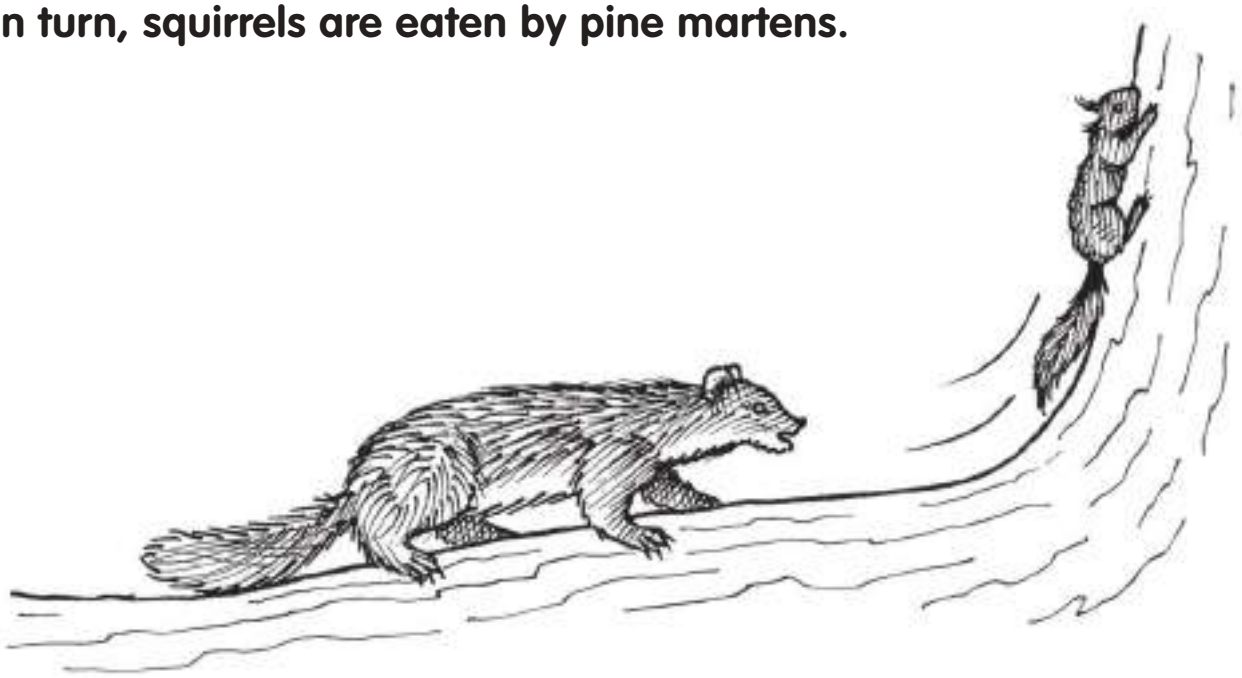
WORD BANK

acorns **drey** **hibernate**

All squirrels are herbivores. Fill in the food chains.

	→	squirrel
pinecones	→	
tree buds	→	

In turn, squirrels are eaten by pine martens.



Fill in a full food chain.

	→		→	

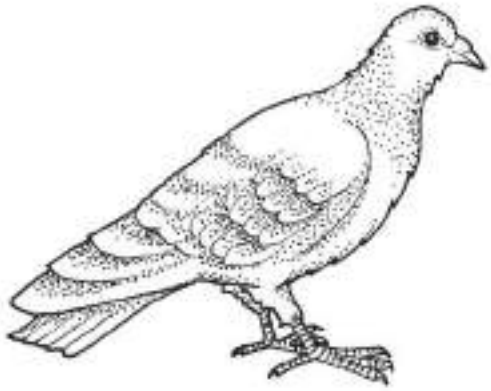
The nearest squirrels to our school live _____.

Write:

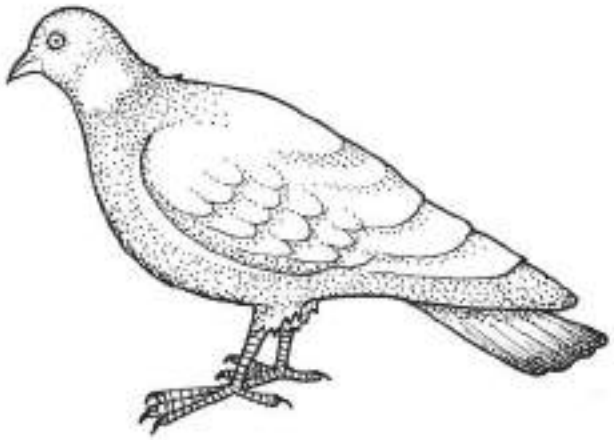
Pigeon _____

Wood pigeon _____

Write the differences between a wood pigeon and a feral pigeon.



Feral Pigeon



Wood Pigeon

Size	**smaller**	**bigger**
Beak		
Colour		
Call		

Wordsearch

T	J	N	D	H	A	L	F	O	X
P	I	G	E	O	N	G	L	O	C
C	P	M	G	S	V	B	O	L	A
O	R	Z	G	M	T	E	C	Q	B
O	Q	B	E	R	U	A	K	W	B
C	A	R	R	E	S	K	J	S	A
O	Z	E	P	Z	B	V	E	X	G
O	X	A	O	U	R	F	D	F	E
E	L	D	E	R	B	E	R	R	Y

WORD BANK

FOX
CABBAGE
PIGEON
DOVE
NEST
BEAK
FLOCK
COOCOO
BREAD
ELDERBERRY
EGG

Fieldtrip. Go out with your teacher to look for pigeons.

What type of pigeon did you see? _____

What do pigeons eat? _____

How many pigeons did you see? _____

What were they doing? _____

_____

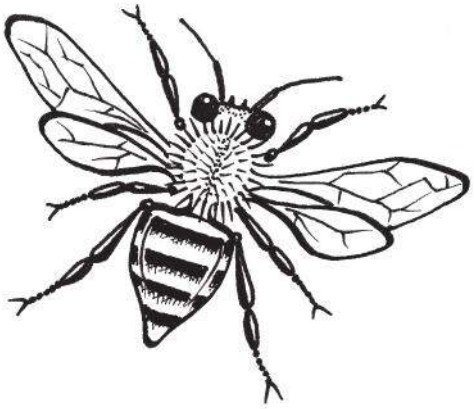
Write the names of the items in the pigeon's food chain.

WORD BANK				
cabbage	peregrine falcon	pigeon	seeds	fox

Write:

Bumble bee _____

Honey bee _____



Write the differences between bumble bee and honey bee.

Which is bigger		**smaller**	
Hairy all over		**not hairy all over**	
Small stripes on body		**stripes all over**	
Narrow waist		**wide all over**	

Finish the sentences.

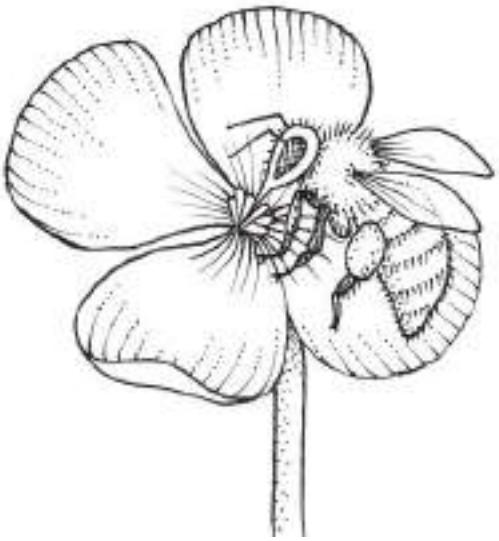
All bees gather _____ **and** _____.

All bees make _____.

WORD BANK

nectar **honey** **pollen**

Field trip. Go outside to look for bees.



Where did you see bees? _____

What was the weather like? _____

How long were you looking? _____

What types of bees did you see? _____

What were the bees collecting? _____

How do you know? _____

How can you make the school grounds better for bees? _____

_____

Your bee drawings.

Introduction to 3rd Class Worksheets

Robin-run-the-hedge

Nettle

Hawthorn

Frog

Swallow

Snail

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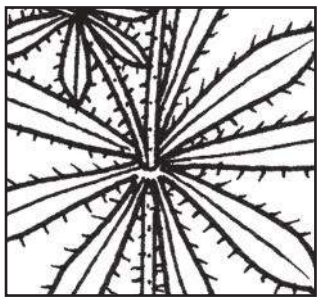
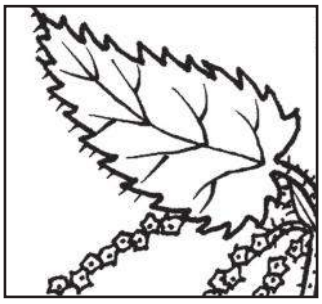
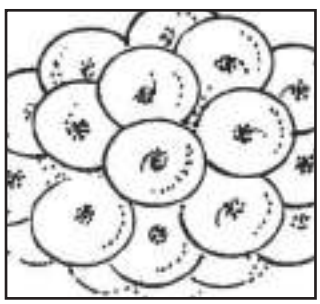
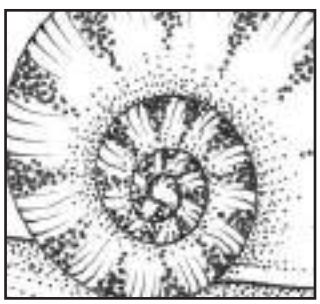







3rd Class Teacher Notes

Robin-run-the-hedge 1

Worksheet in two sections

Introduction to plant: Pupils colour in the robin-run-the-hedge plant and leaves. Show the pictures of the plant to the pupils first so that they know what colour it is. The flowers are tiny so they must look at the drawing very carefully to ascertain that it has 4 petals

Word Search: The English, Irish and Latin words for robin-run-the-hedge are hidden in the word search. As well as horizontal and vertical, words are also presented backwards in diagonal, horizontal and vertical fashions. All the words in the word search are given in the word bank.

Robin-run-the-hedge 2

Fieldtrip (Do this in late May or June)

This plant grows in hedges so you must bring the pupils there to look for it. They must collect a specimen each and examine it for flowers or seeds. Back in class, they should examine the plant with a magnifying glass or the lid of a bug box so that they can see the hooks on the leaves. Seeds can be planted in pots of compost to see when germination occurs. Is this a continuously growing plant or does it just germinate and grow once a year with the seeds set waiting until the next year to grow again?

Nettles 1

Worksheet in two sections

Introduction to the plant: Show the class the picture and do a lesson from the book. The flowers are wind pollinated and so have no petals, as they do not need to be seen by insects.

Cooking Skills: Consider making nettle soup in class, in early May when the nettles are young. You can make a full green nettle soup using nettles, onions and a stock cube or add potatoes to thicken it up and make it less green.

Nettles 2

Fieldtrip to see nettles

Nettles grow in ditches and neglected places so finding them should be easy. If you grasp a nettle firmly, it won't sting – it really does work but only the teacher should try this!

Hunting for insects: Teacher – wearing gloves – should run a sweep net through the nettles and then empty the contents into a bucket or dish. They can be gathered up by the pupils using pooters and put into bug jars with magnification lids. Caterpillars, greenflies and spiders all frequent nettles.

Hawthorn 1

Worksheet in three sections

Introduction to the tree: Show the class the picture and tell them about it, following the account in the book. Pupils then name the parts of the tree and colour in the leaves and haws. There is no word bank at this stage for third class but they should know leaf, flower, thorn, haws or berries.

Finding out the meaning of the names: Discuss this with the class so that they can work it out. Hawthorn – it has thorns and the berries are haws. Whitethorn is called that because the flowers are white. The May Bush gets its name because it blooms in May and sceach geal is, of course, bright bush, referring again to the white flowers.

Making words: Lots of words can be made from this – check in a dictionary if there are disputes.

Hawthorn 2

Fieldtrip

Time of Fieldtrip: In September, there will be haws on the tree and lots of creepy-crawlies on the leaves. In May, there will be leaves and flowers. There may also be ivy, moss or lichen on the bark.

Finding wildlife: Quiet observation may yield bird and flying insect sightings. They must watch for at least 5 minutes counted on a watch. Shake the branches into an open umbrella and observe the greenflies, ladybirds, spiders, caterpillars and shield bugs which drop in. Green things will be herbivores; ladybirds and spiders are carnivores; and birds such as robins, thrushes and blackbirds are omnivores.

Frog 1

Worksheet in two sections

Learning: Frogs are amphibians, which means that they can breathe on land through their lungs and in the water through their skin. Frogs do not have gills. They hibernate for the winter.

Food Chains: Frogs are carnivores and eat flies and in turn are eaten by herons.

Frog 2

Practical Work

It is well worth collecting frog spawn and observing the life cycle in class. It will take several weeks to fill out this sheet – a large version of it could be posted on the classroom wall and filled in as the results become apparent. It is not illegal for teachers to collect frog spawn for educational purposes in class. The National Parks and Wildlife Service automatically issues a licence each year to schools for this purpose so there is no need to apply.

An empty fish tank is good for keeping the frog spawn in and they should be fed with the daphnia-type of fish food, not the flakes. The tank must be cleaned weekly once the tadpoles are swimming around. Put some of the tank water into a bucket. Scoop up the tadpoles with a net and put into the bucket, then empty and clean the tank. If you use detergent be sure and rinse it very well as any soap residue will kill the tadpoles. Use rain water, ideally, to replenish the tank then scoop the tadpoles back in from the bucket. If you only have tap water, you should leave it stand for two days in a bucket or bowl so that the chlorine which is added to tap water can evaporate off. When the frogs have all their four legs, let them off in the school field, or if the holidays come before this stage, they must go back to the pond as they are yet not independent of water.

Swallow 1

Worksheet in two sections

Crossword skills: Following a lesson on the swallow, pupils should be able to fill in this crossword. Note that swallows always nest inside a building – it is house martins that nest outside under the eaves.

Observation skills: Recording the first swallow seen is a sign that Spring is here. This usually happens after St Patrick's Day. The nearest swallow's nest will be inside a barn – pupils may report that swallows nest in their barn every year.

Swallow 2

Worksheet in two sections

Learning about food chains: Swallows are aerial carnivores. They never come to land and eat worms. They only feed on flying insects, so have to return to Africa in winter as they cannot eat berries or ground-dwelling creepy-crawlies.

Dangers to Swallows: A class discussion here about a swallow's life and the problems faced, such as bad weather and not enough insects; no access to sheds as farmers repair old buildings; dangers on the journey to Africa e.g. adverse winds, running out of fat reserves, being hunted by hobbies (birds of prey in warmer countries that chase swallows).

Snail 1

Worksheet in three sections

Parts of the snail: Pupils can fill these in following class lesson

Fieldtrip: School grounds after Easter will be a good habitat for snails. They like to hide during the day so look behind and below sheltered places.

Creating snail traps: Putting out shelter for snails will make them easier to find. Give each class group of four pupils a piece of carpet, an old mat, a piece of lino etc., to place it where it might provide shelter.

Snail 2

Snail experiment

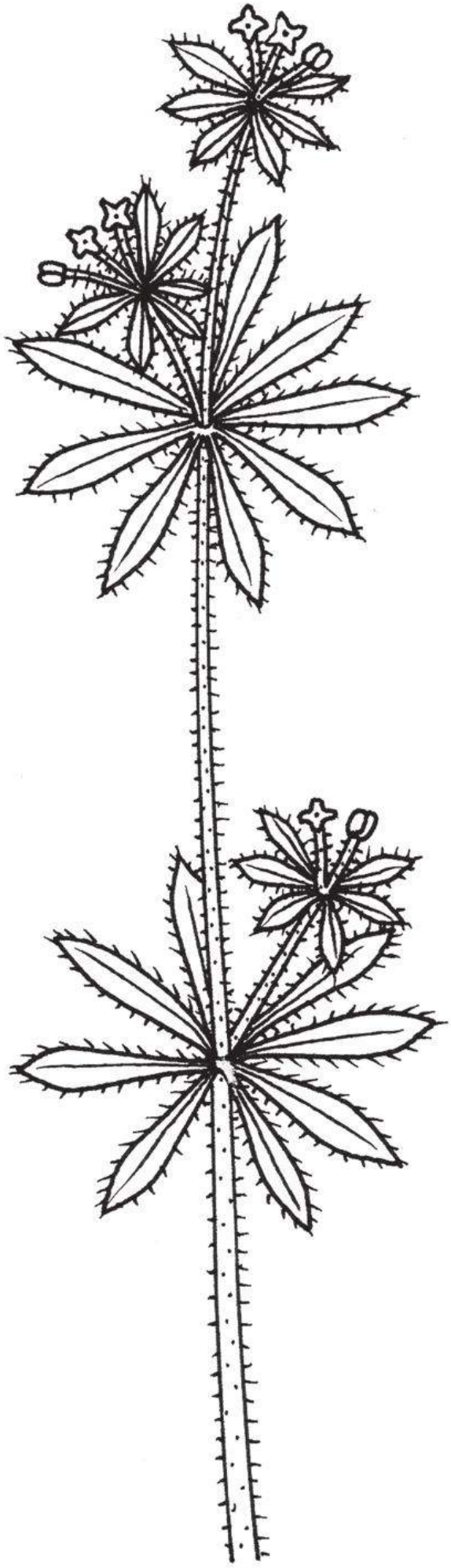
This is to see how many snails are in the school grounds. The lower the percentage of marked snails found the second time, the more snails are in the area. Let's suppose you mark 40 snails the first time and then the second time you find 40 snails and only four of them are marked. Four is 10% of 40. So the first group you marked was only 10% of the whole population which is this case is 400 snails. But you needn't trouble 3rd class with such higher maths!

Colour in the drawing and name:

1. the leaves

2. the flowers **(look carefully)**

The flowers have _____ petals.



Wordsearch

The words in the word search are all different words for this plant in English, Irish and Latin. Look for them across, down, diagonally, and backwards.

R	O	B	I	N	R	U	N	P
C	L	E	A	V	E	R	S	H
Y	R	E	P	C	H	S	F	M
K	A	D	S	E	K	S	C	U
C	Q	U	D	O	L	A	D	I
I	W	C	A	S	O	R	V	L
T	H	E	H	E	D	G	E	A
S	U	L	H	B	R	A	G	G

WORD BANK

ROBIN RUN THE HEDGE
STICKY BACK
GARBHLUS
CLEAVERS
GOOSE GRASS
GALIUM

Fieldtrip

Go with your teacher to look for robin-run-the-hedge.

We found robin-run-the-hedge _____

_____

The leaves of this plant are all covered in sticky hooks.

Why? _____

Does your plant have flowers? _____

Does your plant have seeds? _____

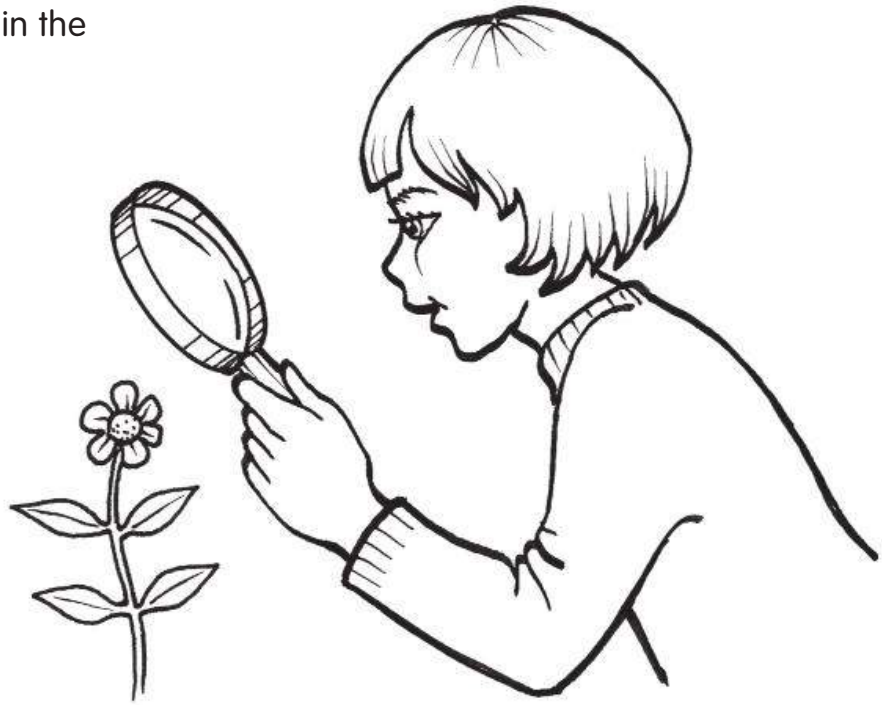
Bring a plant and seeds back to class.

Examine your plants and seeds with a magnifying glass

We saw _____
through the magnifying glass.

Collect the seeds and plant them in a yoghurt pot of soil. Place in the window and keep moist.

How long does it take for the seeds to grow?



Nettles are plants that grow in neglected places.

Name:

1. the leaves

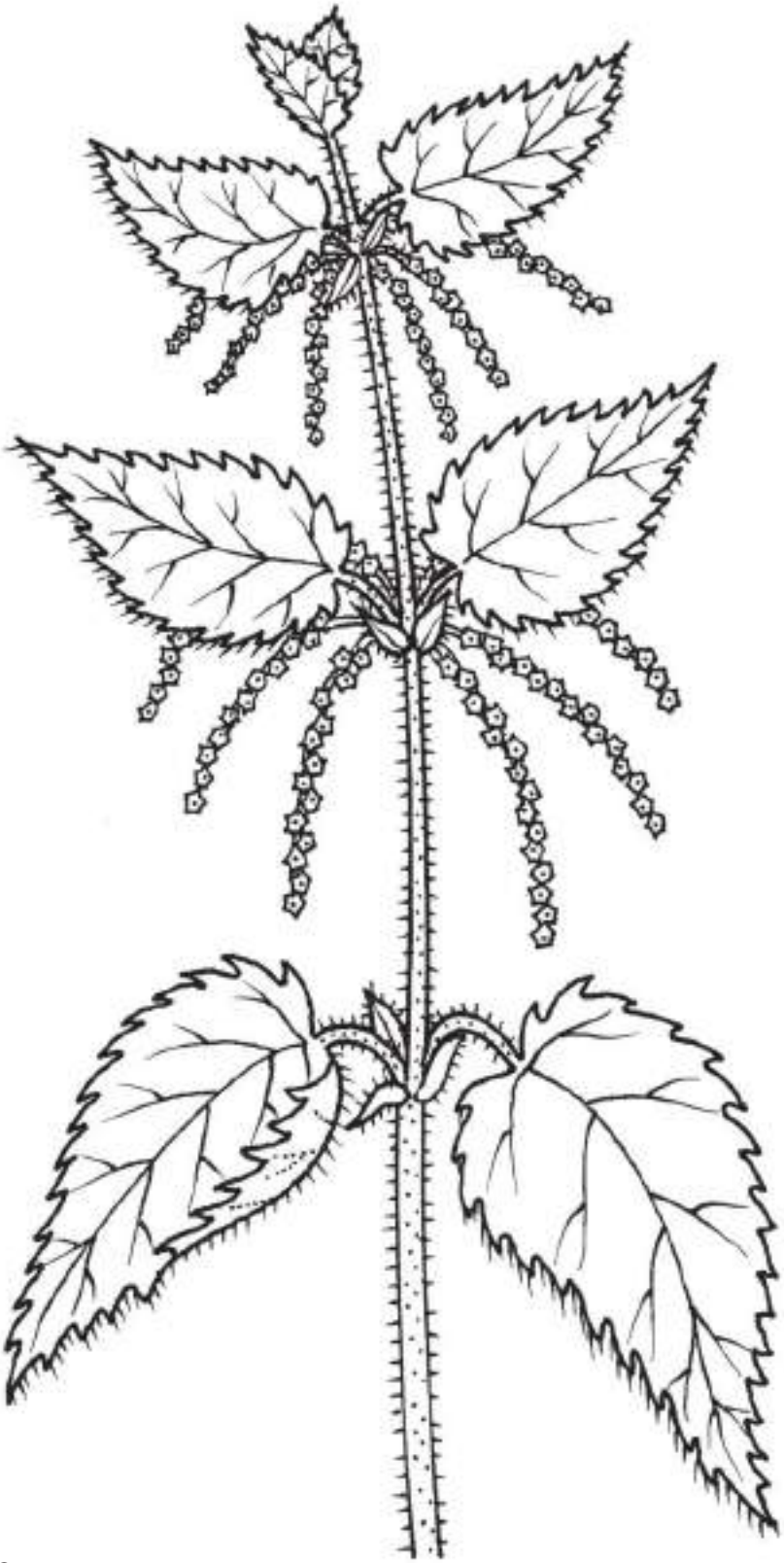
2. the stem

3. the flowers

Why do nettle flowers have no petals?

_____

_____



Nettles were used for food by people long ago.

FIND OUT:

How were they used for food?

_____was made from nettles.

Lots of wildlife eat nettles:

_____eat nettles.

_____eat nettles.

Fieldtrip

Nettles grow in groups and clumps.

They have stings on the leaves so **BE CAREFUL.**

We found nettles _____

Did you see any creatures on the nettles when you just looked at them? _____

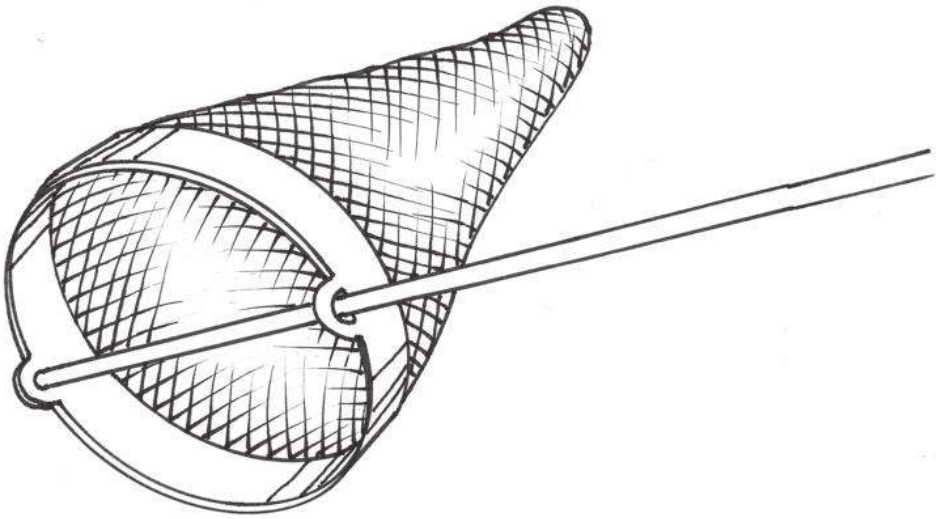
Teacher will sweep the nettles with a sweep net to catch creatures on the leaves.

Empty the net into a bucket or tray.

We found _____

_____

on our nettles.



What is supposed to be good for curing the sting of a nettle?

_____

Why is this? _____

Does it work? _____

Name the parts of the hawthorn drawn here and colour them in.

The following are all names for this tree. Can you explain why?

It is called a hawthorn tree because _____

It is called a whitethorn tree because _____

It is called a May bush because _____

It is called a sceach geal in Irish because _____

How many words can you make from the letters HAWTHORN?

(You should get at least four two-letter words, ten three-letter words, ten four-letter words and four five-letter words).

_____

_____

_____

_____

_____

Fieldtrip

This is a fieldtrip to find a hawthorn tree.

The teacher will need: an umbrella and Pooter jars with lids.

Date of fieldtrip _____

Is this a summer fieldtrip or an autumn fieldtrip? _____

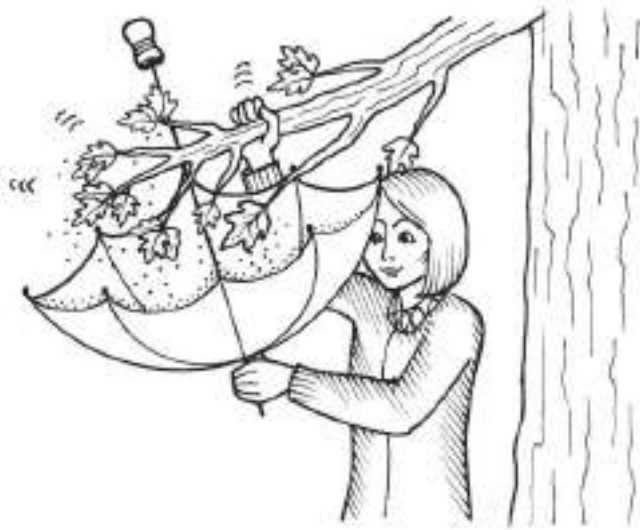
Look carefully at the hawthorn tree.

My hawthorn tree has _____. The bark of the tree has _____ growing on it.

WORD BANK: **leaves, flowers, thorns, buds, haws**

Wildlife visiting my tree

We watched quietly for five minutes and we saw _____ visiting our hawthorn tree.



They came to our tree to look for _____

Our teacher shook the leaves into the umbrella.

We found _____ in the umbrella.

Which of these creatures in the umbrella are

Herbivores? _____

Carnivores? _____

Omnivores? _____

Frogs are:

☐ **Birds** ☐ **Fish** ☐ **Amphibians**

Frogs can breathe in air and in water ☐ True ☐ False

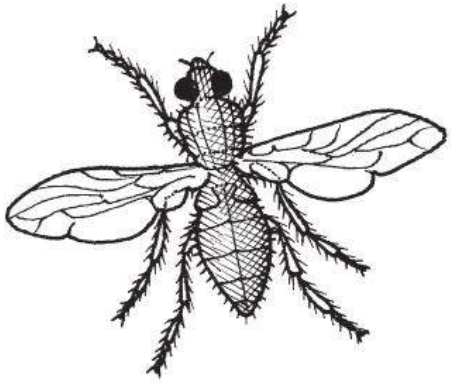
Frogs hibernate in the winter ☐ True ☐ False

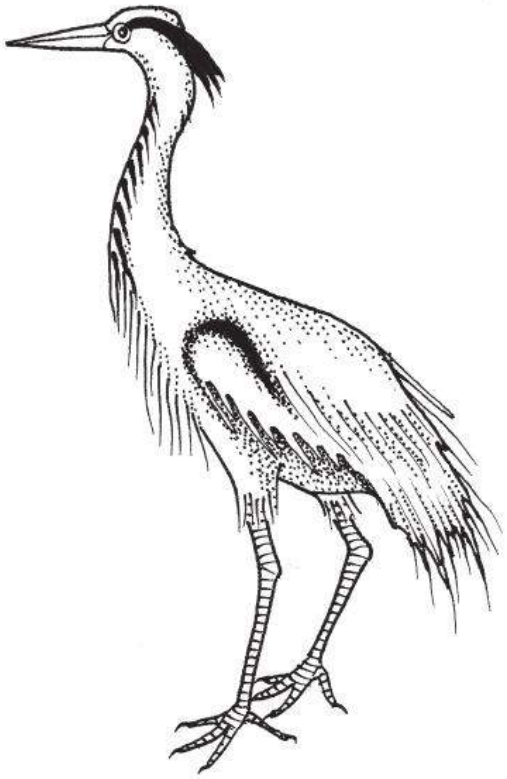
Frogs breathe in air through their _____.

Frogs breathe in water through their _____.

Choose the correct words from the word bank. WORD BANK: **gills, skin, lungs**

Name the items in the frog's food chain.





☐ — **Frog** — ☐

Lifecycle of a frog

In February, frogs wake from hibernation.
They go to the nearest pond to lay frog spawn.

TO DO:

1. Go out and find some frog spawn. Where did you see the frog spawn?

_____

Date on which you found the frog spawn _____

2. Bring back frog spawn to the school pond or to a fish tank in class.

Watch the tadpoles hatch out.

Our tadpoles hatched on _____

3. Feed the tadpoles with fish food and clean out the water every week.

DO NOT USE TAP WATER.

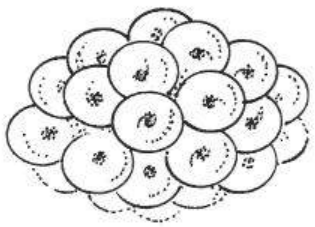
4. Tadpoles grow one pair of legs at a time.

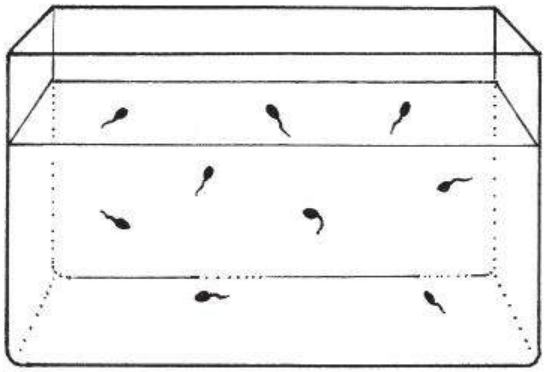
Our tadpoles grew their _____ legs first on_____

5. Our tadpoles grew their second pair of legs on _____

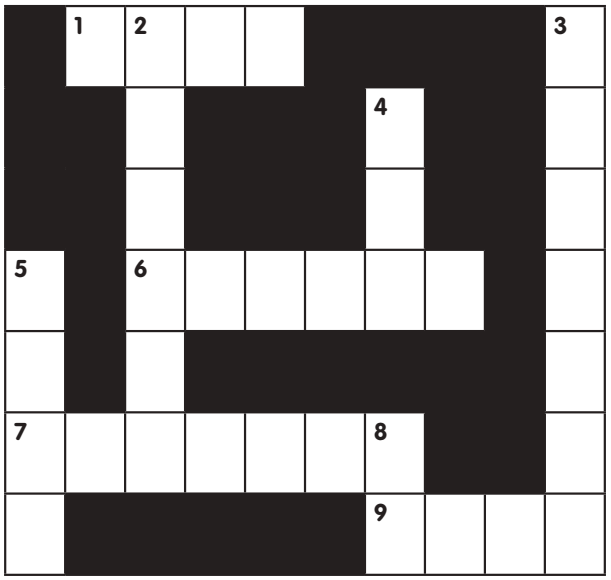
6. We released our tadpoles/frogs before the summer holidays on

_____





Crossword

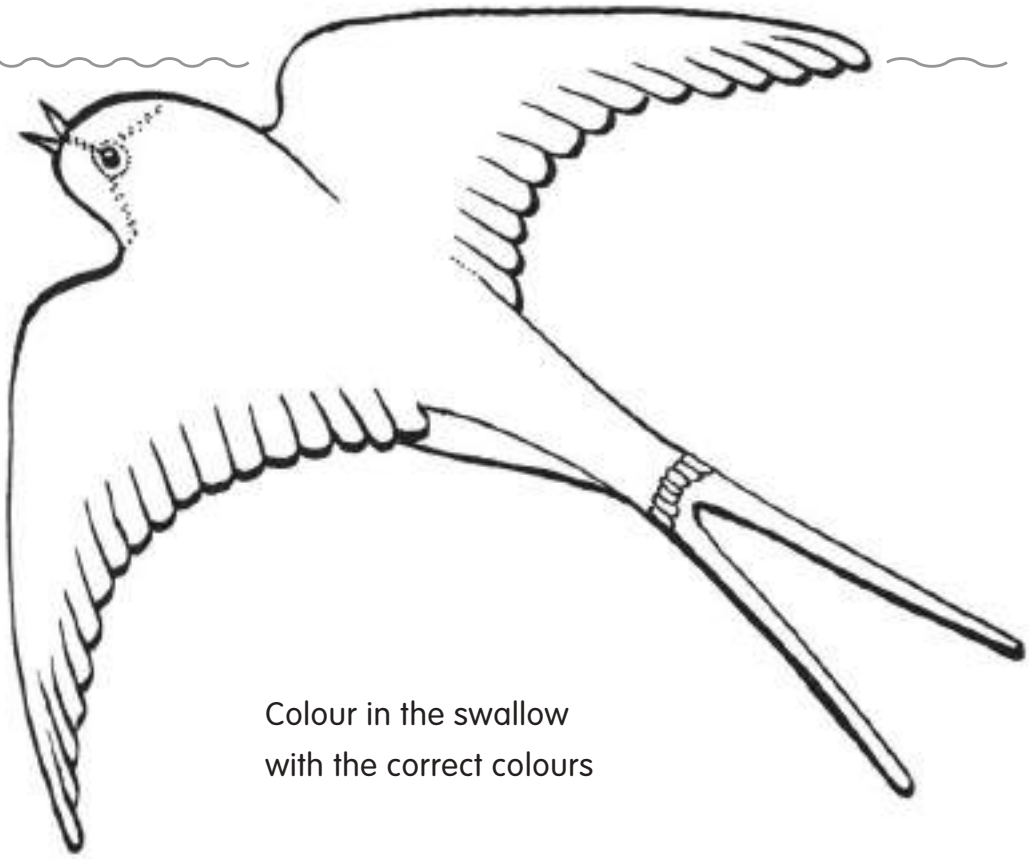


Across

1. A swallow often builds its nest inside one of these.
6. Swallows ALWAYS build their nests _____ a building.
7. They arrive back from Africa in March.
9. Swallows lay five of these.

Down

2. Swallows go here to spend the winter.
3. They feed only on these.
4. They gather this in their beaks to build a nest.
5. A swallow's home, made from mud.
8. Me and You.



Colour in the swallow with the correct colours

When did you see the first swallow this year? _____

Where is the nearest swallow's nest? _____

What colour is a swallow's face? _____

FIND OUT:

What is the Irish word for a swallow? _____

Name the creatures

Swallows are carnivores and only feed on flying insects. Name all the following creatures and draw a line between the swallow and those it feeds on.

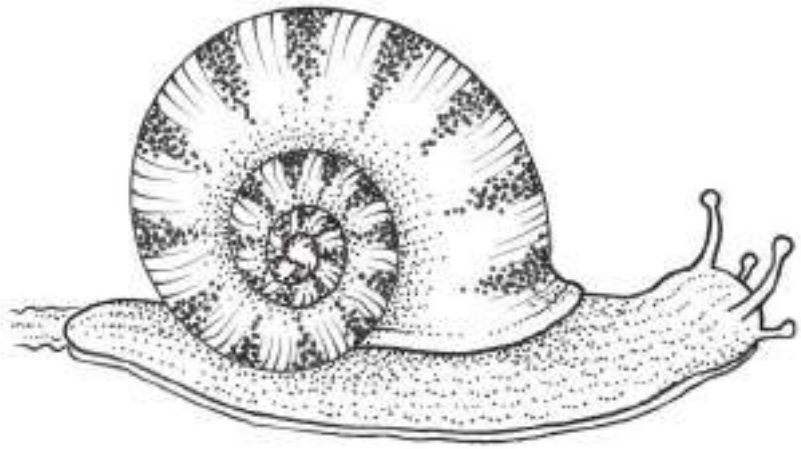
WORD BANK	BUTTERFLY	EARTHWORM	SWALLOW	MOSQUITO
	SPIDER	WOODLOUSE	DRAGONFLY	INDOOR LONG-LEGGED SPIDER

Fill in the two food chains below.

		Swallow
		Swallow

What are the dangers faced by swallows during their lives?

Name the parts of the snail



WORD BANK	EYES	FOOT	MUCUS	SHELL	ORGANS OF SMELL

Fieldtrip to see where snails live

Weather on day of fieldtrip_____

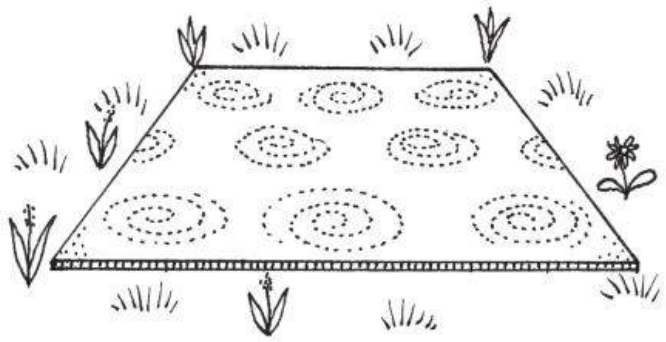
Where did you find the most snails?_____

Were they all garden snails?_____

Describe any others you found_____

Making shelters for snails

You will need lots of snails for the experiment on worksheet 2 so you need to make places for snails to hide in.



You will need – an old mat, or a piece of carpet, or a piece of linoleum, or a large plastic sack – one for each group of 4 children in class, if possible.

TO DO:

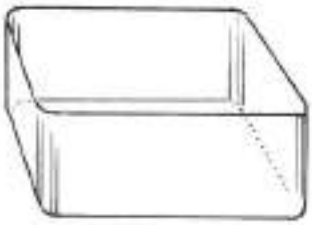
Place them on the ground near the hedge or wall where they will not be disturbed, walked on or taken away. Leave them there for at least a week. Then you can move on to worksheet 2 for snails.

Experiment

Ecological experiment to study how many snails are in the school grounds

Week 1: The class works in groups of 4 children

For each group you will need:



A large plastic box

A bottle of coloured nail varnish

TO DO:

Each group gathers as many snails as possible remembering where they got them. There should be lots under the carpet traps.

Count the snails. Number collected _____

Mark each snail with a small dab of nail varnish on top of the shell.

Release all the snails back where you found them and put the carpet traps back on the ground.

Week 2: Go out again in your groups and collect all the snails you can find. Put them into the plastic box and count them.

Total number of snails found: _____

Number of snails with nail varnish marks: _____

Number of snails with no nail varnish marks: _____
This is the number of new snails in the school grounds this week

Did you find all the snails you marked with nail varnish last week? _____

Why do you think some are missing?_____

Introduction to 4th Class Worksheets

Lords and Ladies

Vetch

Elder

Badger

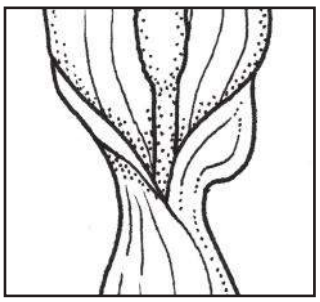
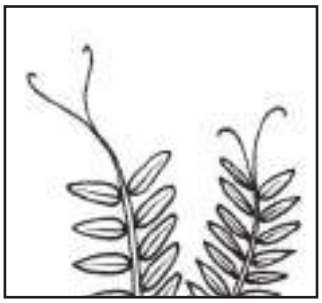
Heron

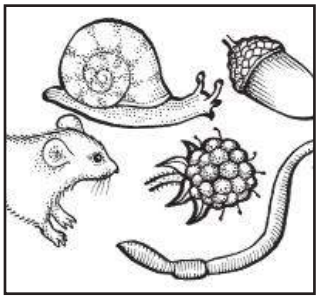
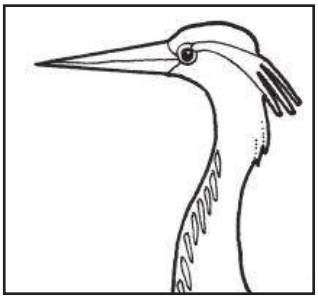
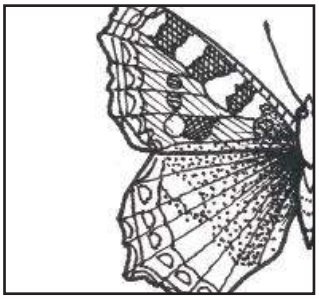
Butterfly

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly and return any animals collected to the wild. The worksheets need not necessarily be done in the order in which they are given.

There is also emphasis on food chains and how animals live in the wild so that completing the worksheets adds to the children's knowledge. By fourth class, the pupils will have already learned about a considerable number of plants and animals so these worksheets refer to species learned earlier and act as a form of revision. This is particularly evident in the worksheets on plants and trees. The worksheets are designed to be photocopied and handed out to the pupils.

4th Class Teacher Notes

Lords and Ladies 1

Worksheet in three sections

Introduction to plant: Pupils colour in the Lords and Ladies plant in both summer and autumn form. Show the pictures of the plant to the pupils first so that they know what colour it is.

Revision: Four flowers that live in hedges and have already been learned by the pupils are shown here – primrose, bluebell, robin-run-the-hedge and nettle. They should recognise each one.

Working things out: Why should these plants flower in spring? What do plants need to grow? – light. When the leaves come on the trees in the hedge, these small plants do not get enough light to flower. So they have adapted to where they live by flowering early.

Lords and Ladies 2

Fieldtrip (Do this in April or early May – after Easter)

Ability to find plants: The plant has been described to them in class. Now they should be able to find it in a hedge or wooded part of park but do not let them pull them all up.

Genetic ability to smell the particular smell of the stalk of Lords and Ladies: Teacher pulls a plant and crushes the stalk. Choose a plant that is ripe and has insects at the bottom of the flower. Ask each pupil in turn to describe the smell. Note who can and who can't detect the smell. Do the majority smell it or not?

Vetch 1

Worksheet in two sections

Noticing features of the plant: Knowing how the plant grows towards the light, pupils identify the relevant parts of the plant.

Word search: Pupils find all the words that have to do with vetch. Horizontal, diagonal, vertical and backwards are all used to find the words in the word bank.

Vetch 2

Fieldtrip

Revision: The visit to the hedge to look for flowers is not just for vetches, but for all the other hedge plants they have learned. They prove their knowledge by collecting a leaf from each one and sticking it to a page in class with the correct name. They can use several pages to stick down the leaves if necessary. (Sellotape is good for this).

Elder 1

Worksheet

Revision: The five trees they should know by now, together with the new one – elder – are revised here. They should be able to recognise the leaf of each one and associate the seed/berry/nut with each one.

Elder 2

Fieldtrip

Revision: This fieldtrip is to revise the trees they know. They should be able to recognise all the main trees in a normal Irish hedgerow by now. Collecting a leaf specimen adds to their record in class.

Finding creepy-crawlies: Shaking a branch of each tree in turn gives a haul of creepy-crawlies in the upturned umbrella. Best results are found on warm sunny days in June and September. Holly trees will have fewer creepy-crawlies than oak, hawthorn or elder as the hard spiny leaves are more difficult to eat.

Badger 1

Worksheet in two sections

Names: Badgers live in setts, foxes in dens or in an earth, otters in holts, rats in holes and rabbits in burrows. Tunnels are not homes for any animal.

Accurate Drawing: Show the picture of the badger to the pupils and ask them to make a scientifically accurate one of it.

Badger 2

Worksheet in two sections

Food: This worksheet focuses on what badgers eat and scientific deduction. Frog spawn is only around in Spring so Latrine 2 therefore must have been investigated in Spring. Similarly, blackberries and acorns are autumn fruits. Wheat grows in cultivated fields and leather jacket grubs are pests of wheat roots and are dug up by badgers. Hamburgers and dog food are provided by humans so Latrine 4 must be near town.

Food Chains: Badgers are omnivores and consume a wide variety of food, as can be seen from the first part of the exercise, so there is great scope in drawing up food chains. Badgers are not eaten by anything.

Heron 1

Worksheet in three sections

Introduction to the bird: Show the picture of the bird to the pupils so they can colour in the drawing accurately.

Unscamble the words: An English exercise that improves their wildlife knowledge – the words are FROG, EEL, RAT, MOUSE, FISH and BEETLE.

Foodchain: Pupils now have lots of scope for a foodchain with the heron on the top but make sure they put in what the prey eats too, i.e., HERON – FROG – FLY – PLANT SAP

Heron 2

Worksheet

Revision: Pupils are asked to recognise the six birds they now know from the outline drawings. The answers to all the questions are in the teachers' handbook so it is revision for the teacher too.

Butterfly 1

Worksheet in two sections

Introduction to an insect: Insects have three parts to their bodies – a head, a thorax or middle bit to which the legs and wings are attached and an abdomen. They have 2 eyes, 2 antennae and a long tongue. Pupils should learn these component parts from the first exercise.

Revision: Some of the other creepy-crawlies the pupils have learned are not insects. So, spiders have only 2 parts to their bodies and carry all eight legs on their heads; woodlice have 14 legs; and bumble bees (which are insects) have 4 wings.

Butterfly 2

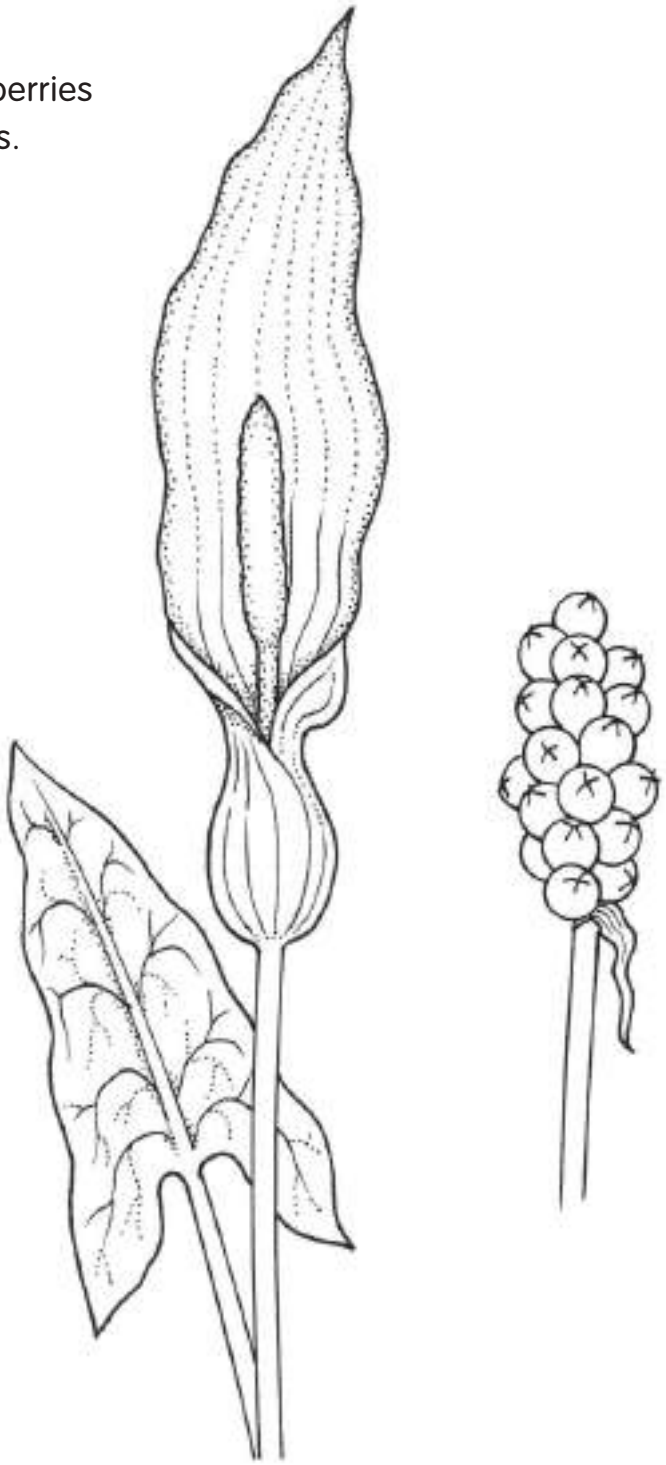
Fieldtrip

Looking for butterflies: If the school has very few butterfly nets, much can still be learned by observation. Encourage this very important scientific skill.

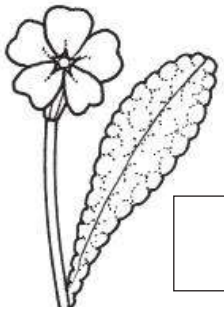
Caterpillar Game: This game is to illustrate how difficult it is to see green things on green grass. Pupils will easily find the red and white pasta – just as birds would easily find red or white caterpillars. It is much harder to find the green pasta and it takes longer so the pupils at the end of the lines will have fewer pasta pieces because only green ones are left. So being green is good for survival.

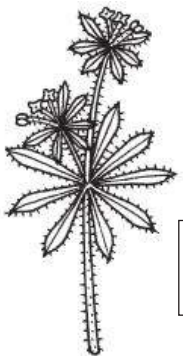
Colour

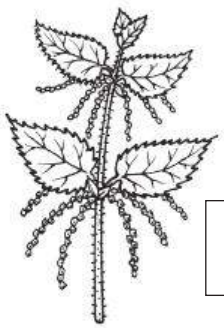
This plant flowers in spring and has red berries in autumn. Colour in both of the drawings.



In Spring, Lords and Ladies grow in hedges and woodlands. They usually flower in April or early May. The following flowers also grow in hedges and flower at the same time. Can you say what each one is?

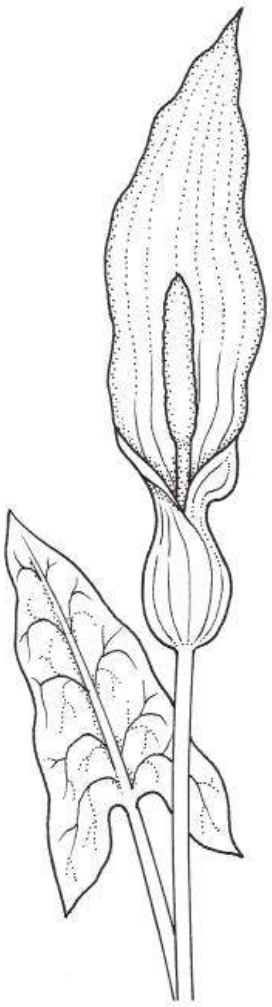






Why do all these flowers appear in Spring before the leaves come on the trees?

Fieldtrip



In April, the fieldtrip will be to find the flowering plant.

This plant attracts flies because the stalk sticking up smells like rotten meat to flies. However, only some people can detect this smell.

Crush the flower stalk between your fingers and smell it.

Can you smell rotten meat from the stalk? ☐ Yes ☐ No

How many pupils in your class?_____

Of that number, how many can smell the rotten meat smell?

_____

Flies can smell it and they go down into the flower looking for food that they think is there. Open the flower and look for flies.

Date when you opened the flower:_____

Flies present ☐ absent ☐

In September, these plants have a stalk topped with red berries.

Birds eat the berries and new plants grow from the seeds of the berries which are in their droppings.

THESE BERRIES ARE POISONOUS TO HUMANS.

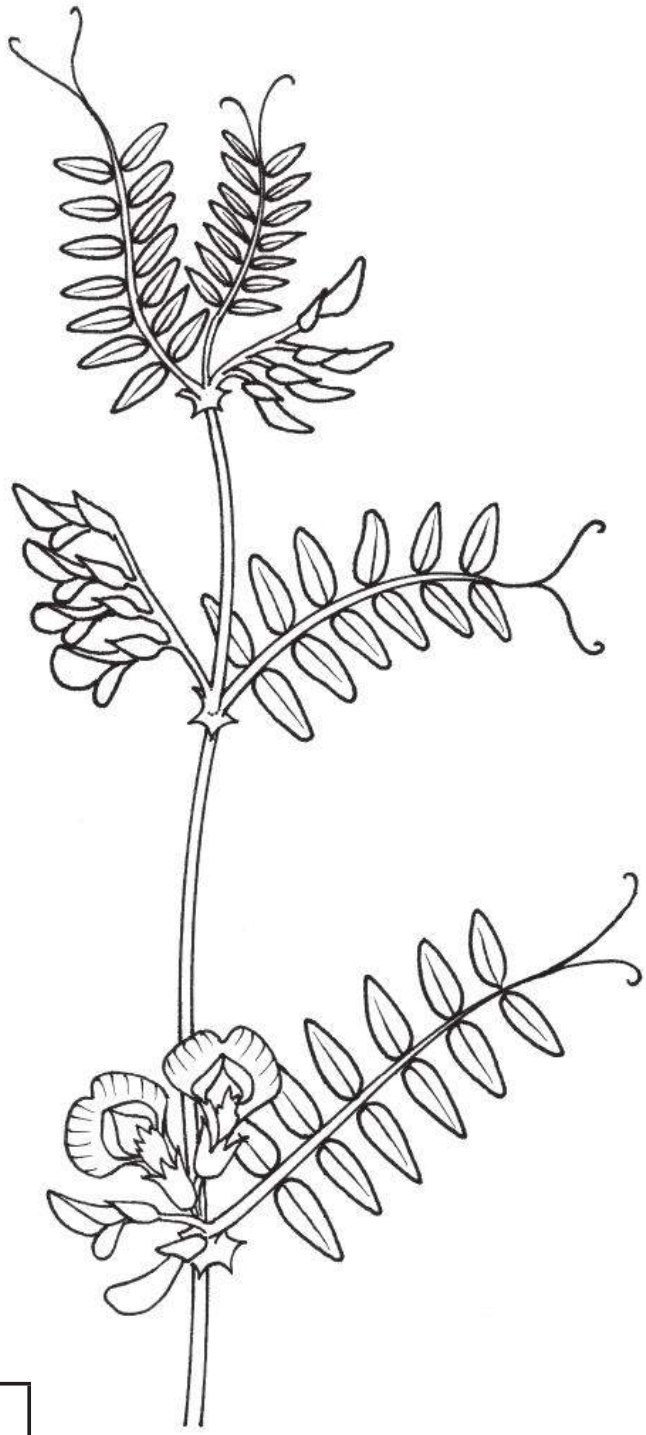
We saw berries of Lords and Ladies on our fieldtrip on:

_____ (date)

Colour and mark the parts

Vetches grow in hedges. There is not enough light at the bottom of the hedge for them to grow properly so they climb up towards the light using their tendrils at the end of the leaves to cling on to other plants.

Examine the drawing. Mark in the flowers, the leaves and the tendrils. Colour in the plant using the correct colours.



Vetches are members of the pea family. Find all the following words in the word search below. They may be horizontal, vertical, diagonal or backwards in any of these directions.

W	E	G	D	E	H	L
P	E	A	L	R	I	B
O	U	Q	V	R	O	X
D	R	R	D	B	P	T
T	N	N	P	A	L	F
L	E	A	F	L	E	T
T	O	H	C	T	E	V

WORD BANK

VETCH
PEA
TENDRIL
LEAFLET
POD
PURPLE
HEDGE

Fieldtrip

Fieldtrip in May/June to look for hedge flowers.

In your hedge, you should find flowers that you already know. Collect a leaf and flower from each one and stick it in the space beside the name:

VETCH

BLUEBELL

LORDS AND LADIES

ROBIN-RUN-THE-HEDGE

PRIMROSE

NETTLE

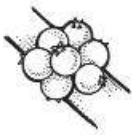
Identify

The elder tree is very common in hedges. It can be identified by its leaf which has only 5 leaflets. Look at the following leaves. You have learned them all already. Name each one.

New trees from seeds – these can also be nuts or inside berries. Name the following and say what tree grows from them.

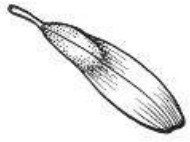
name _____

tree _____



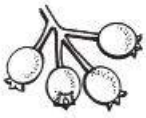
name _____

tree _____



name _____

tree _____

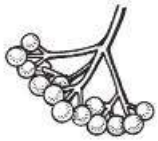


name _____

tree _____

name _____

tree _____



name _____

tree _____

_____ _____ _____ are berries.

_____ _____ are nuts.

_____ are wind-blown seeds.

DID YOU KNOW?

Birds eat berries and the hard seeds in the middle come out in their droppings and grow into new trees.

Fieldtrip to a hedge

This fieldtrip is to the nearest hedge to study the trees in the hedge.

Each group will need an umbrella, a pooter and a few jars.

At your hedge, find the trees you know and collect a leaf from each one. Bring them back to class and stick on to this page and name each one.

We found _____had the most creepy-crawlies.

Were the same creepy-crawlies on every tree?

_____were on every tree.

_____ was only on _____tree.

Wordsearch

Badgers make their homes under the ground in a hole which has a special name. The word bank has lots of words for holes under the ground. Find them all and highlight the word that means a badger's home.

B	A	S	Y	R	W
H	O	L	E	O	E
O	E	A	R	T	H
L	I	R	K	N	T
T	U	N	N	E	L
B	A	D	G	D	P

WORD BANK

HOLE
DEN
BURROW
HOLT
EARTH
SETT
TUNNEL

Look at the picture of a badger. Draw an accurate badger picture here.

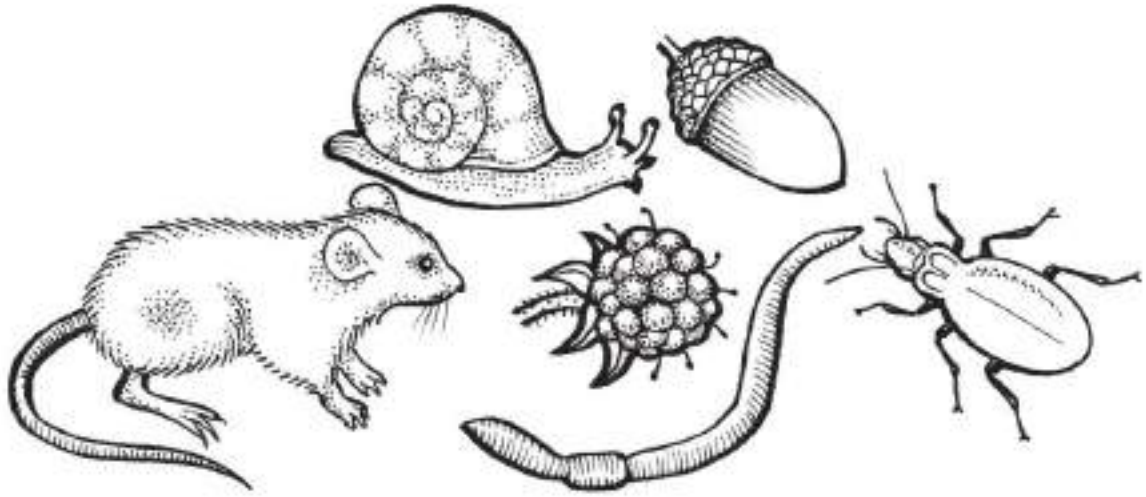
How do we know what badgers eat?

DID YOU KNOW?

Scientists examine badger droppings to see what food the badger was eating. This is easy to do because badgers in a sett all use a special place near the sett as a toilet. This place is called a badger's latrine.

Animal scientists called Zoologists examined droppings from 4 different latrines at different times of the year and this is what they found:

Latrine 1	Latrine 2	Latrine 3	Latrine 4
Earthworm hairs	Hedgehog spines	Blackberry seeds	Rabbit fur
Wheat grains	Rat bones	Snail shells	Earthworm hairs
Skins of leatherjackets	Jelly from frog spawn	Acorn shells	Mouse bones
Fungi	Slug remains	Beetle backs	Tinned dog food & hamburger



Examine these results carefully and answer the following questions:

Which latrine was examined in Autumn?_____

Which latrine was near a town? _____

Which latrine was examined in Spring? _____

Which one was near a ploughed field with a growing crop? _____

Which food was found more than once? _____

In your copies, draw up three different food chains for badgers.

Colour

A heron is a large wading bird that spends lots of time beside rivers, ponds and lakes. Colour in the picture with the correct colours. Look at pictures of herons to be sure.

Herons are carnivores. Here is a list of food they eat – the letters have been mixed up. Can you write the correct word in each case?

GRFO _____ SHIF _____

SUMOE _____ ART _____

ELE _____ BTLEEE _____

Make a heron food chain

Bird Revision

These are the birds you have learned about so far.
Name each bird.

Which two live on or near water?

_____ _____

Only two are omnivores. Which two?

_____ _____

Two are herbivores (only eat plant food) – which two?

_____ _____

Only two of them never build a nest in a tree – which two?

_____ _____

Which one has a male and female with different colours? _____

Which one migrates for the winter? _____

Which one is called Máire Fhada in Irish? _____

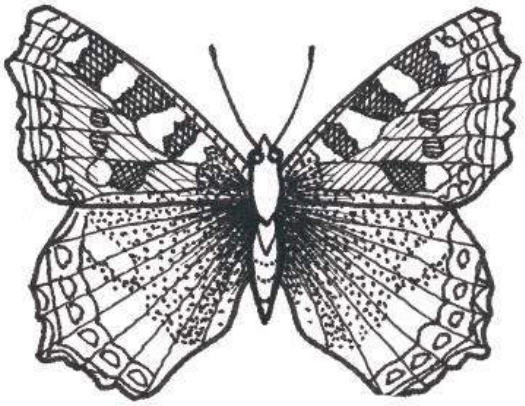
Why do you think this is so?_____

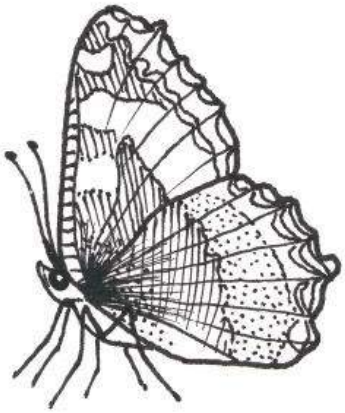
Which is your favourite? _____

Why? _____

Fill in the blanks

A butterfly is an insect and has a typical insect's body. Look at the two drawings of the butterfly below and answer the following questions. The words for the answers are in the word bank.





Name 3 things on a butterfly's head

_____ _____ _____

How many legs does a butterfly have? _____

How many wings has it?_____

The butterfly's body is in _____ parts.

Name each part of the body _____

_____

WORD BANK				
HEAD	THREE	SIX	FOUR	THORAX
ABDOMEN	ANTENNAE	EYES	TONGUE	

REVISION

How many legs has a spider?

_____

How many legs has a woodlouse?

_____

How many parts in a spider's body?

_____

How many wings has a bumble bee?

_____

All a spider's legs are on its

_____

Fieldtrip

Butterflies fly best on calm, dry days with sunshine and no wind. Pick a day like this in May, June or September to look for butterflies. You will need nets and a jar.

Butterflies visit flowers.

We saw _____ butterflies visiting flowers.

What flowers were they visiting? _____

Butterflies fly in the air.

We saw _____ butterflies in the air.

We caught _____.

WHY ARE CATERPILLARS GREEN? GAME to play outdoors.

You will need 3 bags of pasta shapes – 1 red, 1 green and 1 white.

Divide the class into 2 teams.

Scatter all the 3 bags of pasta over a grassy place. The class are the birds and the pasta pieces are the caterpillars.

It is easy to see and catch white and red pasta on the green grass.

At 'go', one pupil from each team rushes to collect as many pieces of pasta while the rest of the class counts to 10. They keep what they have collected. The next two do the same for a count of 10 and so on each until all have had a turn. Each pupil counts how many of each colour they collected.

player	WHITE PASTA		GREEN PASTA		RED PASTA	
	Team 1	Team 2	Team 1	Team 2	Team 1	Team 2
1st						
2nd						
3rd						
4th, etc						
TOTAL						

Who collected the most and the least? Why? Were all the green pieces found? What can we conclude about caterpillars and camouflage after this?

Introduction to 5th Class Worksheets

Poppy

Speedwell

Hazel

Bat

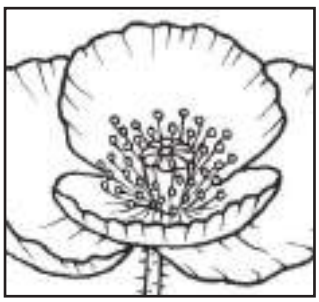
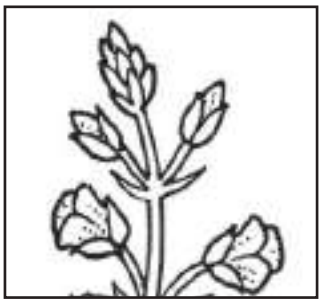
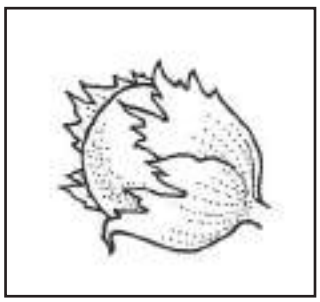
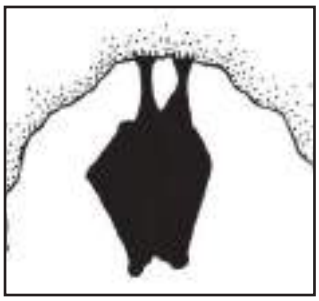
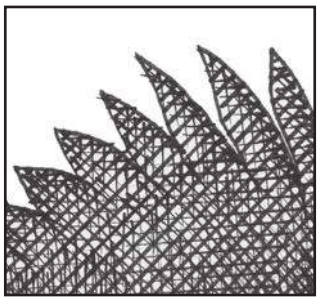
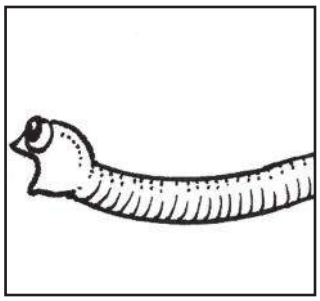
Kestrel

Earthworm

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species. The worksheets, which need not necessarily be done in the order in which they are given, are designed to be photocopied and handed out to the pupils.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly and return any animals collected to the wild.

There is also an emphasis on pupils finding information out for themselves by use of books and by using the internet. By fifth class, pupils should be encouraged to do some researching for themselves and using the information found to answer the questions posed.

5th Class Teacher Notes

Poppy 1
Worksheet in two sections

Introduction to plant:
Pupils colour in the poppy drawn, having seen the picture provided with this pack.

Research:
Red flowers such as roses and tulips are deliberately bred in this colour by gardeners – they are not naturally occurring red flowers. The scarlet pimpernel is probably the only other truly red wild Irish flower. Ladybirds, soldier beetles and cinnabar, burnet and garden tiger moths are all red insects. The poem 'In Flanders Fields' by John McCrae is another research opportunity for the pupils.

Poppy 2
Fieldtrip (Do this in May or early June)

Ability to find plants:
The poppy plant grows on disturbed soil. This is because it doesn't compete well with grass and will only grow on bare soil before other plants become established.

Establishing an area for poppies:
This involves making an area of bare soil and indeed impoverishing the soil by adding sand or gravel. A fifth class which cannot find poppies can start the process of making bare soil but the poppies may not appear until the following year. So planting a wild flower mix containing poppies is also worthy of consideration.

Medicinal use:
Extraction of narcotics from poppies. More opportunity for theoretical (but not practical) research by pupils.

Speedwell 1
Worksheet in three sections

Introduction to flower:
Via drawing and the supplied picture

Observational skills:
Careful observation of the plant makes it easier to find them later, when on the fieldtrip.

Revision:
This is a revision of six other grassland plants pupils have learned in school.

Speedwell 2
Fieldtrip

Qualitative study:
Here the pupils are carrying out a comparative qualitative study of the effects of two particular types of grassland management on flowers. Choose an un-mown piece of lawn or field and a mown piece. The un-mown piece should have more speedwell and buttercup, whereas the rosette plants such as daisy, dandelion and ribwort will survive being mown as their growing point is buried in the rosette of leaves. Grass, of course, grows well in both.

Accurate drawing:
The drawing they make from the speedwell they collect should be scientifically correct – right number of petals, shape and position of leaves on flower stem.

Hazel Tree 1
Worksheet

Life cycle study:
This sheet can be given to pupils in September. Catkins in February, leaves in April and nuts in September are food for squirrels, mice, jays and rooks, NONE of which hibernate but eat their stores all winter long. New trees germinate from uneaten nuts; the leaves fall off in October and only buds are to be seen in December and January.

Hazel Tree 2
Fieldtrip

First fieldtrip in September should establish if hazel trees grow in the vicinity of the school. If not, a hazel tree should be planted on tree day in October. The Parks Department of the Local Authority may be in a position to provide a tree but they are not expensive to buy either. If a growing tree is found near to the school, all the stages of the lifecycle shown on the last worksheet can be checked out. In subsequent years, this will be possible with the newly planted tree. It is important to bring the pupils to see catkins in February – these are wind-pollinated flowers.

Hedge layers:
This is an opportunity to examine the structure of a hedge. This needs to be done in September and again in April. Even if the names of the plants present are not known, it will be possible to demonstrate the layers and show the difference in Spring. The Teacher should keep the September worksheets for comparison with the Spring ones. Hand out the same worksheet again in April.

Bat 1

Worksheet in two sections

Research:
Another opportunity for the pupils to go on the website given and find out about the bat species.

Identification:
The five bats outlined are described in the questions below so it is an exercise in observation and deduction; similarly with filling in the details of the long-eared bat.

Bat 2

Worksheet in two sections

Bat food:
If they only eat flying insects, then choosing those on the list which can fly at night gives the answer, *i.e.,* mayflies, midges, moths, mosquitoes and daddy longlegs. Bats don't eat bees.

Interpretation of scientific Information:
A bat lifecycle is succinctly given in the table. This is an exercise in accurate scientific writing, not a short story!

Kestrel 1

Worksheet in two sections

Mammal research:
Pupils find out about each small mammal on the list. The National Parks and Wildlife Service www.NPWS.ie is a good site to start with. Mice, rats and pygmy shrews are common and widespread, bank voles and white-toothed shrews are confined to particular counties. There are no other species of small mammals in Ireland – no dormice or moles or water voles. Mice and rats are pests.

Other birds of prey:
Sparrow Hawk, Peregrine Falcon, Merlin, Hen Harrier, Marsh Harrier, Buzzard. The Golden Eagle, the white-tailed Sea Eagle and the Kite have all been recently re-introduced.

Kestrel 2

Worksheet

Binocular vision:
This worksheets gets the pupils to experiment with using their eyes separately and together. Lining up an outstretched finger with a line on the board can only be done with one eye at a time. Using both eyes together means focusing on the finger or the line but not both together. Swans and other birds who use both eyes independently have a much wider field of vision to look out for predators.

Earthworm 1

Worksheet in two sections

Setting up a wormery:
A large clear container is essential to see what the worms are doing. Darkness is essential or the worms move to the centre and can't be seen, so do not leave the wormery uncovered for long.

Finding worms:
If all fruit fails, the worms can be cajoled to the surface by pouring soapy water over the area, although this is disliked by worms and leaves their habitat unusable for some time. The method described on the worksheet mimics the effect of heavy rain – altogether a more natural way of collecting worms.

Earthworm 2

Worksheet

Identifying common worms:
This worksheet encourages pupils to look for Tiger Worms and Angler Worms. Compost bins are a good place to look for Tiger Worms while Angler Worms may be found under dead plant material.

Colour

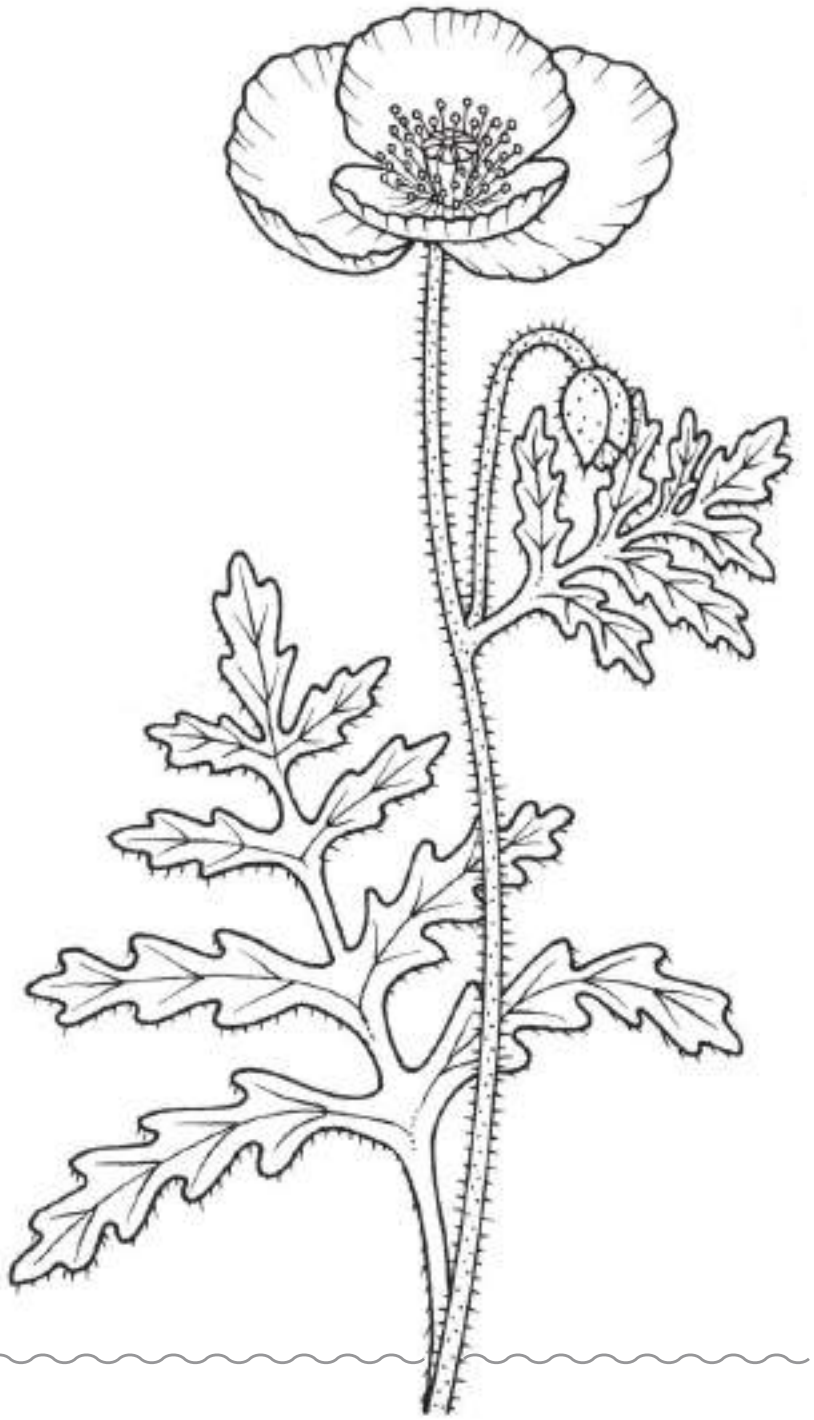
Poppies grow on ground that has been disturbed or dug up. They flower from late May until August. Look around the area where your school is and see where the poppies grow.

Poppies grow

_____

Colour in the poppy.

Poppies are red in colour to warn predators that they are not good to eat.



Other wild flowers and insects are red in colour for the same reason.

Name another red wild flower:

_____

Name a red insect:

_____

FIND OUT:

Look up the poem which begins:

"In Flanders fields the poppies grow / Between the crosses row on row"

What happened in Flanders fields?_____

Why are there crosses there? _____

Why did the poppies grow there? _____

Nowadays poppies are worn to remember what? _____

Fieldtrip

Areas with disturbed soil will have poppies.

Are there poppies in the school garden growing as weeds? _____

Are there poppies in an area of disturbed soil along the roadside? _____

Are there no poppies near your school? _____

TO DO:

Make a site on the school grounds where poppies can grow.

Devise a plan for this *(Hint: poppy seeds can last for 40 years in undisturbed soil).*

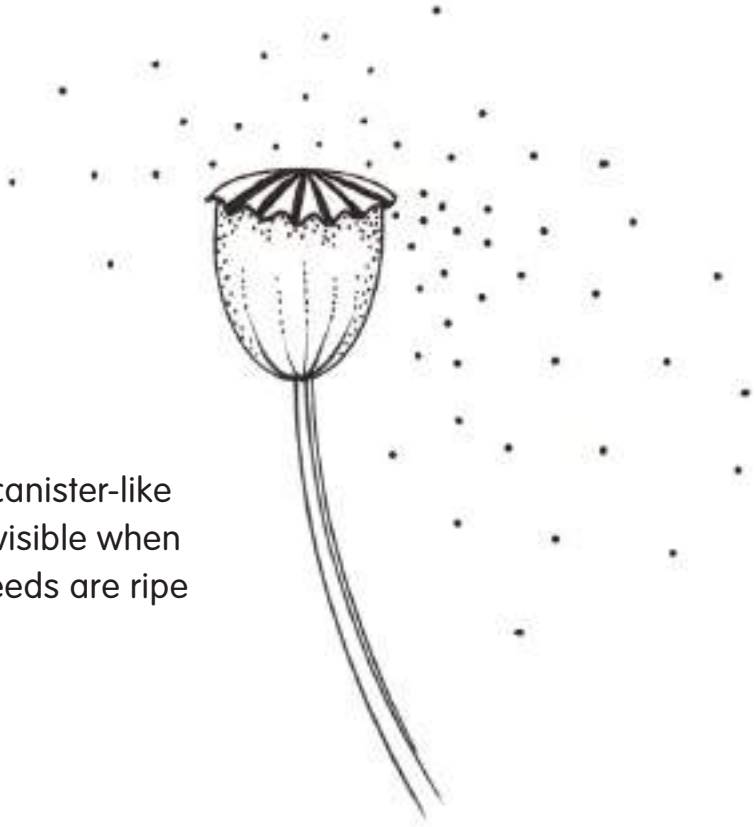
_____

_____

_____

_____

_____



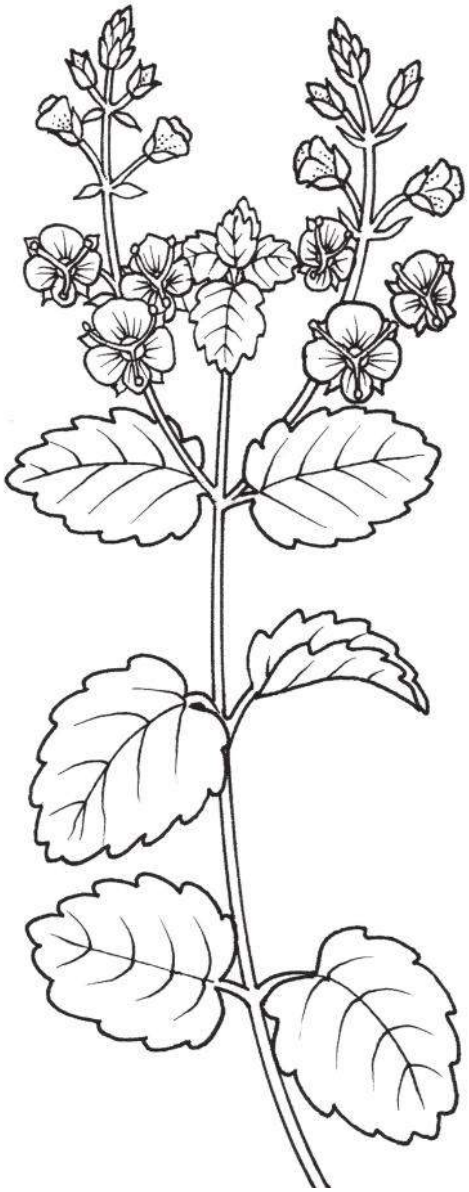
Poppy seeds are borne in a canister-like capsule on the plant. This is visible when the petals have fallen. The seeds are ripe when they are black.

FIND OUT:

Poppies had medicinal uses long ago. Look up what they were used for.

Colour and fill in the blanks

Speedwell grows in uncut areas of grassland. Look at the picture shown to you by your teacher and colour in the flower.



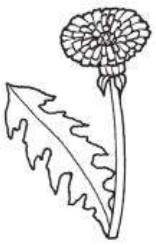
How many petals has one speedwell flower? _____

Are they all of equal size? _____

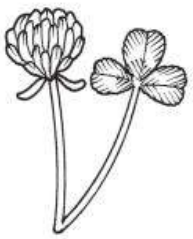
What is the position of the leaves on the stem?_____

Does the plant flower from the top down or the bottom up?_____

Speedwell is a grassland flower. So are all the others drawn below. Name each one.





REVISION

_____ and _____ have yellow petals.

_____ and _____ have white petals.

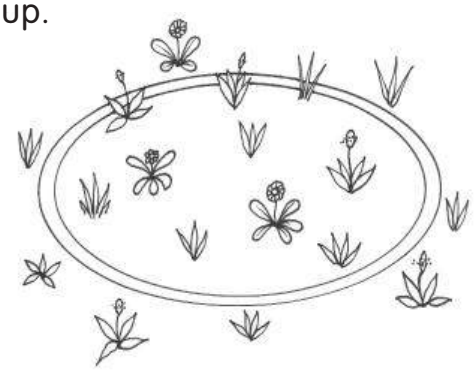
_____ has purple petals.

_____ has no petals; it is wind-pollinated.

Speedwell has _____ coloured petals.

Fieldtrip

Go to the school grounds to look for speedwell. It is in flower in May and June. You will need a hoop or a quadrant for each class group.



TO DO:
Find an area of grassland that has not been mowed. Put the hoop on the ground and list all the flowers inside the hoop that you know.

List of flowers in hoop in un-mown grass:

_____

_____

_____

_____

Now find an area of grassland that has been mowed regularly. Put the hoop on the ground here. Make a list of all the flowers you know inside the hoop.

List of flowers in hoop in mowed grass:

_____

_____

_____

_____

Which plants were found in both groups? _____

_____

Which plants were only in the mowed area?_____

_____

Which plants were only in the un-mown area? _____

_____

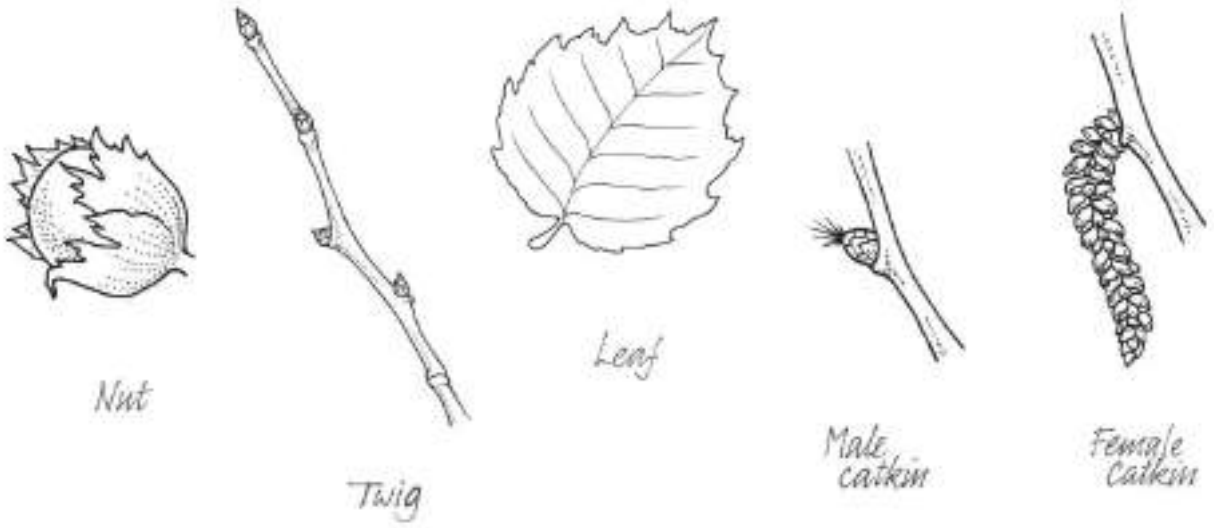
What conclusion can you draw from your work?_____

_____

Bring back a piece of speedwell and make an accurate drawing of it in class.

Fill in the blanks

Look at the picture of the hazel tree and the drawings here.



In February and March _____ open on the hazel tree.

These are pollinated by the wind.

In April, the _____ open on the hazel tree.

The _____ are fully ripe by early September.

These are food for _____ and _____.

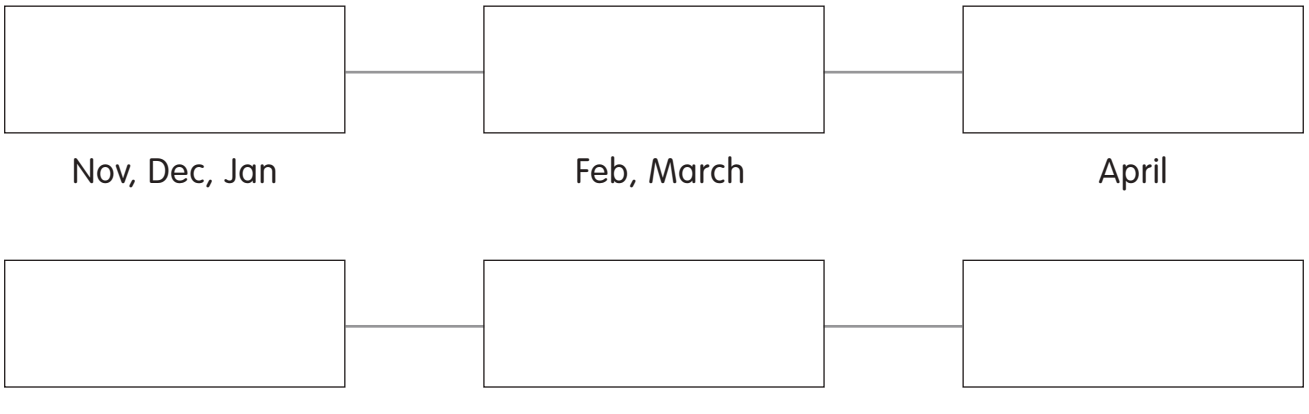
These bury them in order to store them for food to eat during _____ .

New trees will _____ from those that are not eaten.

In October, the _____ fall from the tree.

In December and January, only the _____ are to be seen at the end of the twigs.

LIFECYCLE



Fieldtrip

Hazel trees are one of the trees that grow in hedgerows.
Go to your nearest hedge to find out.

Are there hazel trees in your hedge – or in your school grounds?_____

If not – plant a hazel tree. You can collect a hazel nut and plant a young tree in the school grounds during TREE DAY in October.

Hedges are very good habitat for plants and animals.

There are four levels of plant and animal life in a hedge. Fill in the details of the four levels in your hedge.

CANOPY

The tallest trees get the most light on their leaves. The canopy trees in our hedge are

_____

SHRUB LAYER

This consists of smaller trees and shrubs and climbing plants that are lower than the main trees. There are _____

_____

_____

in the shrub layer in our hedge.

GROUND LAYER

This is where the flowers in the hedge grow. They have little light when all the leaves are on the canopy and shrub layer. In September, we saw _____

_____

_____

in the ground layer. In April/May, we saw _____

_____

_____

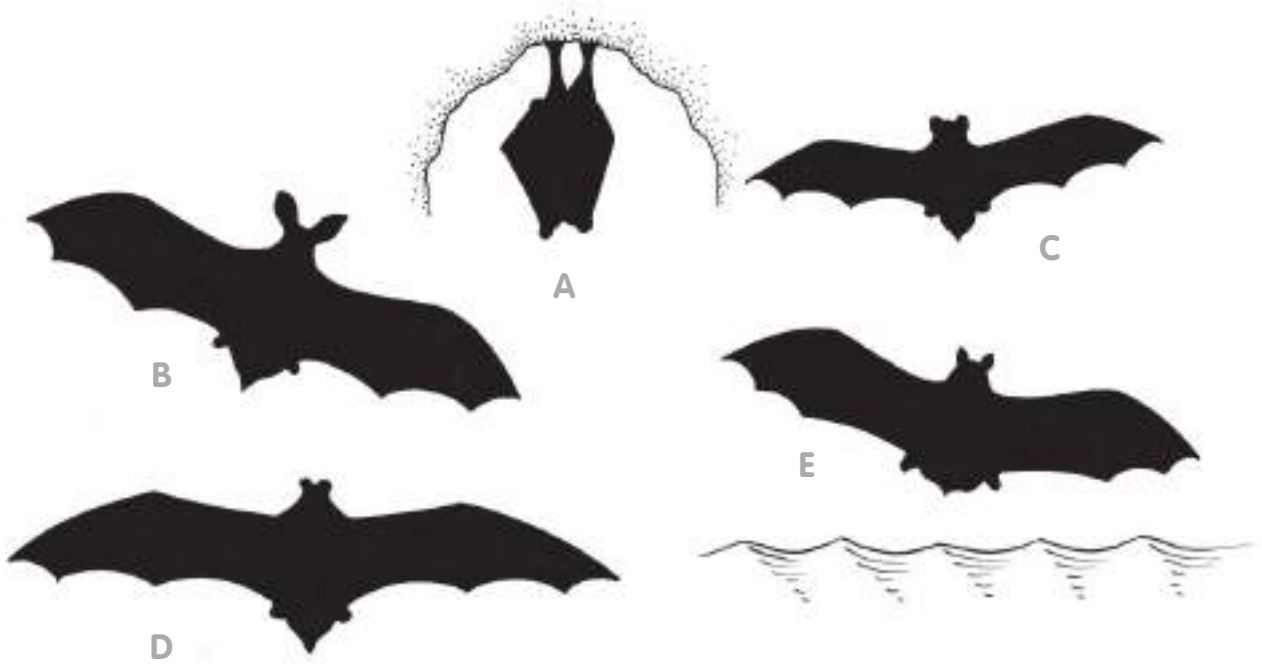
in the ground layer.

LEAF LITTER

This is where all the dead leaves are broken down into compost by creepy-crawlies.

Fill in the blanks

Bats are mammals that fly at night. There are ten different species in Ireland. Can you name them all? You can find out on the Bat Conservation Ireland website at www.batconservationireland.org



Outlines of some of our common bats are shown above. Examine them carefully and then answer these questions:

Which one is Daubenton's bat, also known as the water bat? _____

Which one is the long-eared bat? _____

Which one is the cave-dwelling species – the lesser horseshoe bat? _____

Our largest bat is Leisler's bat which is bat number _____

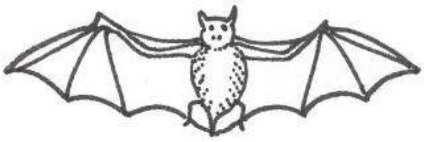
Our smallest bats are the pipistrele bats (of which we have 3) – which one drawn above is a pipistrele bat? _____

TO DO:

Using the dark outline as a template, re-draw the long-eared bat. Label the ears, tail, feet and the wings. Look at the picture in the teachers' book to see if you were accurate.

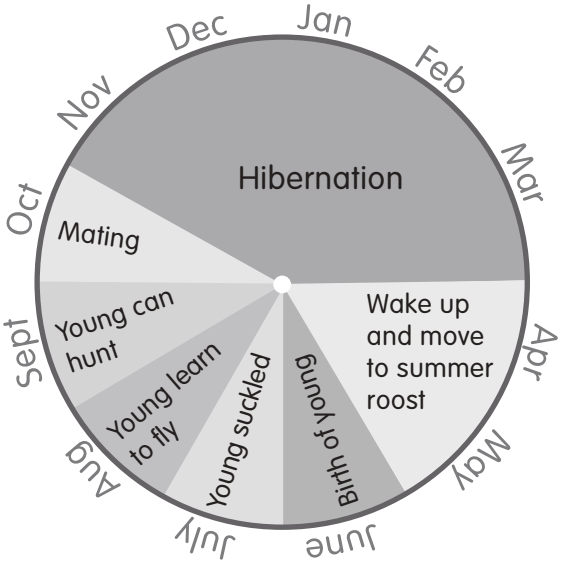
Food and Lifecycle

Bats are carnivores. They fly at night in summer feeding on aerial insects. Tick off which of the following are eaten by bats:



- ☐ Mosquitoes
- ☐ Woodlice
- ☐ Moths
- ☐ Worms
- ☐ Midges
- ☐ Slugs
- ☐ Bees
- ☐ Mayflies
- ☐ Mice
- ☐ Daddy-Longlegs

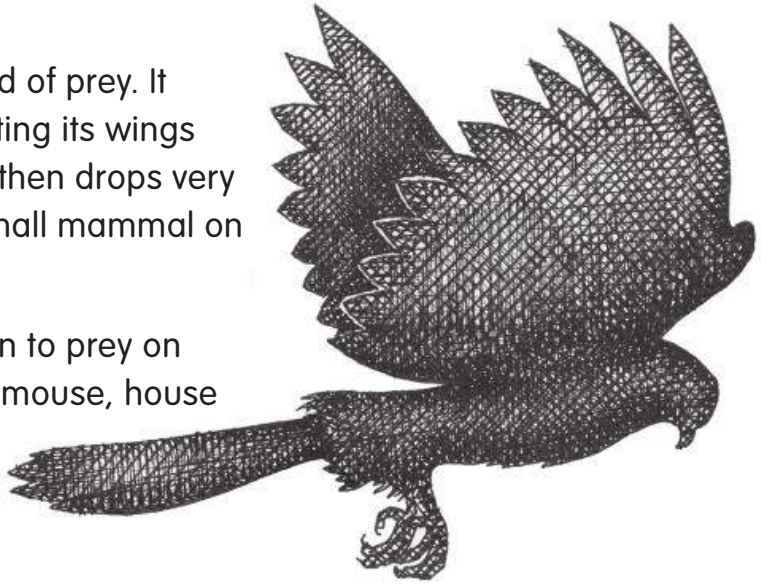
Here is a drawing of the life cycle of a bat.



TO DO:

Write a paragraph about a year in the life of a bat using this drawing to make sure that the points you make are accurate.

Look up



The Kestrel is our most common bird of prey. It hovers over fields and hedges, beating its wings very fast to stay in the one place. It then drops very suddenly on to its prey, usually a small mammal on the ground.

In Ireland, kestrels have been known to prey on the following small mammals: field mouse, house mouse, rat, pygmy shrew, white-toothed shrew and bank vole.

Look up each one of these and find out how common and widespread each one is.

Field Mouse _____

House Mouse _____

Rat _____

Pygmy Shrew _____

White-toothed Shrew _____

Bank Vole _____

Which of these are considered to be pests by humans? _____

_____

Are kestrels of benefit to humans? _____

Name 5 other birds of prey in Ireland.

_____ _____

_____ _____ _____

FIND OUT what 3 other species of birds of prey that once were native here, have been re –introduced in the last 10 years.

_____ _____ _____

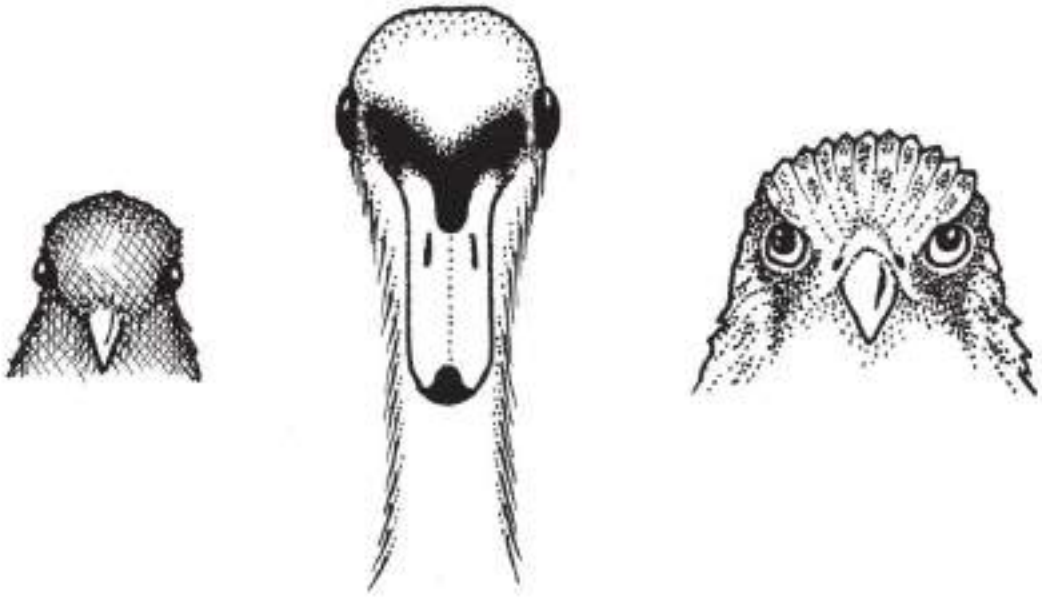
Why is this re-introduction such a good idea? _____

_____

_____

Experiment

How do kestrels see so well? Unlike swans and blackbirds, kestrels have **binocular vision.**



Birds like swans and blackbirds see out of each eye independently. You can try this by holding up a finger and looking at it with one eye at a time. This is fine for most things but when you have to pounce on something and catch it, you have to know exactly where it is. So you need to be able to focus on it with both eyes at the same time – which is what binocular vision means.

Line up your finger with a line drawn by your teacher on the board. You can only do this with one eye at a time. Using your two eyes together you can only focus either on your finger or on the line on the board – not both at the same time.

Kestrels, like all birds of prey and owls, use both eyes together and are very good at catching fast-moving prey.

Swans use each eye independently at the same time. This gives them an advantage which is very important to them. Can you work out what it is?

_____

_____

_____

_____

_____

_____

Experiment

Earthworms are decomposers. They feed on dead plant material and break it down to nutrients that can be used by other plants to grow. They are commonly found in soil.

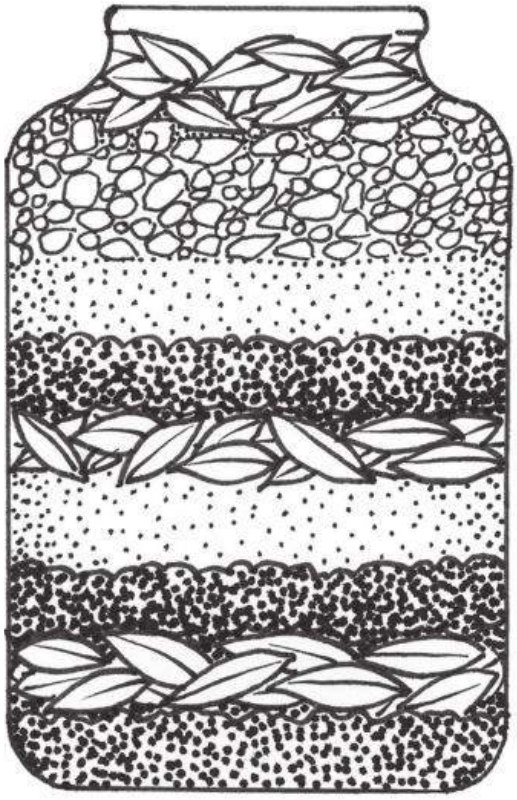
You can see how they break down leaves and make tunnels in soil by looking at a wormery.

How to make a wormery

You will need:

1. a large glass/plastic jar such as one for holding sweets;

2. layers of leaves, soil, sand and chalk.



If you put earthworms into the jar and cover the jar with a black plastic bag, the worms will work away in the darkness mixing up the layers and eating the leaves. Keep the soil slightly damp and open the black bags for just a few minutes every two days to see what is going on. If you leave the bag off, you won't see anything as worms keep away from the light.

How to capture worms to put in the jar

You have to convince the earthworms to come up to the surface of the soil.

Work in groups of 4. You will need a 5 litre bottle of water (or 2 smaller bottles) and an empty box to put the worms in.

Go outside and pick an area of grassland 1 metre square.

Water it with all the water. Then start stamping – carefully – on the ground you have watered. The worms down below will think that it is raining and will start coming up to the surface. This may take 5 minutes or so but keep at it.

Bring the worms back to the wormery and put them in.

Identify

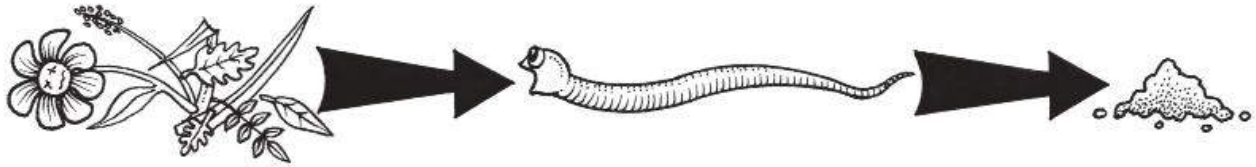
Worms eat dead plant material and turn it into soil nutrients. They work very well in compost bins.

What is a compost bin? _____

Is there one in your school? _____

Have you one at home? _____

What goes into the compost bin? _____



Go outside and look in the compost bin. Collect some of the worms you see there and bring them back to class.

Examine them carefully.

Are they all the same? _____

Are they the same as the earthworms in the soil? _____

Are they fatter/thinner than earthworms? _____

Are they red all over and wriggle violently on your hand? _____

If they do, then they are ANGLER WORMS which are red.

Are they striped – with red and pink circular stripes? _____

These are TIGER or BRANDLING WORMS which are very common in compost bins.

DID YOU KNOW?

Red light doesn't disturb worms at night, so if you put red cellophane paper over a torch you can find lots of worms in the garden at night.

Introduction to 6th Class Worksheets

Herb Robert

Cow Parsley

Birch

Deer

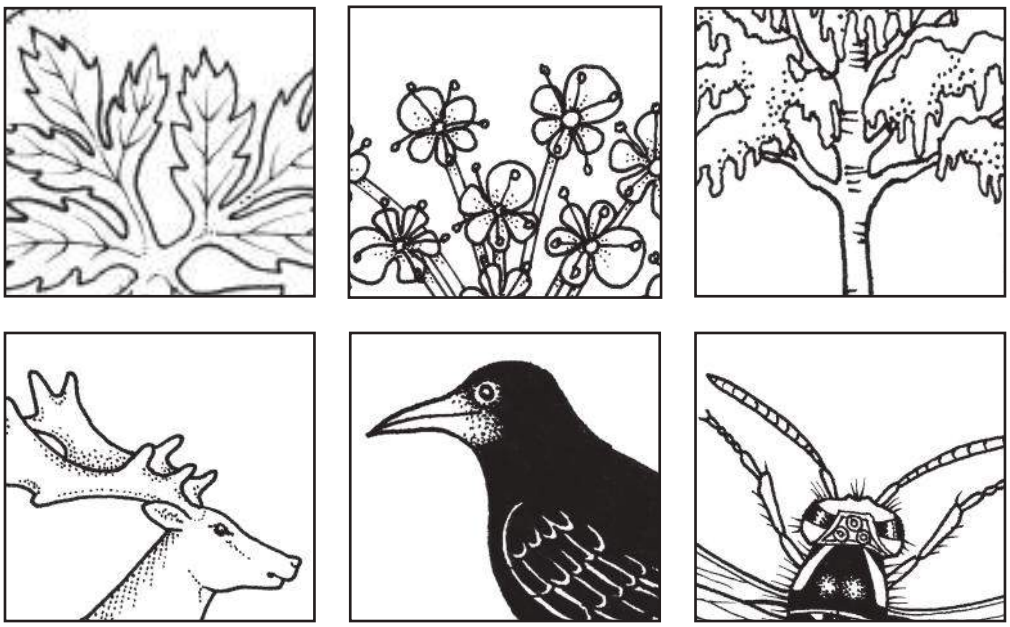
Crows

Wasp

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species. The worksheets, which need not necessarily be done in the order in which they are given, are designed to be photocopied and handed out to the pupils.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly and return any animals collected to the wild.

There is also an emphasis on children finding information out for themselves by use of books and by using the internet. By sixth class, pupils should be encouraged to do research and to use the results to take points of view on environmental issues.



6th Class Teacher Notes

Herb Robert 1
Worksheet

Introduction to plant
This sections requires that the pupils examine the drawing in detail and understand the vocabulary used on the worksheet They should understand petal, sepal, alternate, opposite, seed and canopy.

Herb Robert 2
Fieldtrip (do this in May)

Ability to find plants
The plant grows in a hedge or woodland edge and flowers in May.

Making a model hedge
This involves making a miniature hedge with the four layers in a box, in class. This can be done by several groups in the class. Each of the four layers of the hedge are collected and placed in the box in the right position.

Cow Parsley 1
(Flowers are in bloom in late May/June)
Worksheet

Introduction to plant
Examination of the drawing and being shown the picture will introduce the pupils to cow parsley. Finding it in a nearby hedge and bringing it back to attempt an accurate drawing increases the familiarity with the plant.

Cow Parsley 2
Fieldtrip

Hunt for insects
Associated with the nectar-filled flowers, this exercise is conducted by using a strong net to sweep a stand of flowers. This should dislodge any insects which can then be examined closely. A warm sunny day is best for this exercise.

Birch 1
Worksheet

Study of tree
Because birch trees are so commonly planted, it should be relatively easy to visit one on a regular basis to find invertebrates. Leaves, bark and around the base of the tree should all be examined.

Birch 2
Worksheet

Key construction
This involves a series of questions to distinguish the individual leaves. It could begin:

1. Leaves compound: go to 2
Leaves simple: go to 4

2. Leaflets attached radially to stem:
Horsechestnut

Leaflets in opposite pairs with one terminal leaflet: go to 3

And so on. There is no right way – the fewer the steps, the more elegant the solution but as long as the key works it is fine.

Deer 1
Worksheet

Food chains
It will soon be apparent in discussion with the class that deer have no natural predators in Ireland.

Importance of top carnivores
Teacher should instigate a debate on the importance of top carnivores and how populations with no top carnivores increase in numbers as long as there is food available. This may mean destroying young forests by eating young germinating trees, or destroying crops on farmland or becoming a nuisance to traffic in parks.

Control of hunting
Hunting deer with guns for sport means removing the very best specimens for trophies whereas natural hunting by wolves would remove the weakest, most easily caught specimens. So culling by controlled removal must mean the removal of the weakest animals to keep the health of the herd up.

Introduced species
This can upset the ecological balance. Muntjac deer, for instance, which have no natural predators in Ireland, will further damage the woodlands where they have been introduced.

Food Chain Game

Revision worksheet in two sections

Revision
This is a revision exercise of the species learned in Primary School. Pupils must know enough about these species to understand their requirements for growth and nutrition.

Food web
By using a ball of string to link each "species" to its food and its prey, a food web can be created. It is then easy to demonstrate the effect on a food web of the loss of even one species. Decide on one species to eliminate and that person lets go all the strings they are holding. See how quickly the web unravels.

Crows 1

Worksheet in two sections

Observation skills
This worksheet requires pupils to look closely at the crows in the school grounds and to realise that there are two different species – a rook and a jackdaw – so this exercise sharpens their observational skills.

Nests
Magpies have solitary nests of sticks high in trees in suburban areas. Rooks nest in colonies on the tops of adjoining trees. Jackdaws nest in chimneys, church steeples and old castles.

Crows 2

Worksheet in three sections

Research skills
Pupils should be able to find out about Ravens, Hooded Crows, Jays and Choughs.

Food
Crows eat a wide variety of food and these lead to the abundance of the species.

Scientific survey
Draw a map of the area surveyed and mark in the positions of the Rook and the Magpie nests. Rookeries will be separate from each other but there may be individual Magpie nests relatively close in areas where there is good feeding available. It is the availability of food and nesting sites that controls the populations of Rooks and Magpies.

Wasps 1

Worksheet in two sections

Identification
Wasps and honey bees are of a similar size but honey bees are hairy with indefinite stripes while wasps are shiny and very definitely striped. Bumble bees are much bigger and hairier.

Mimicry
There are several other non-stinging insects which carry the black and yellow warning colours of bees and wasps. This mimicry has meant that they have evaded being eaten so those that look most like bees most successfully evade capture by birds and leave most offspring. They evolve, therefore, to look more closely like bees and wasps.

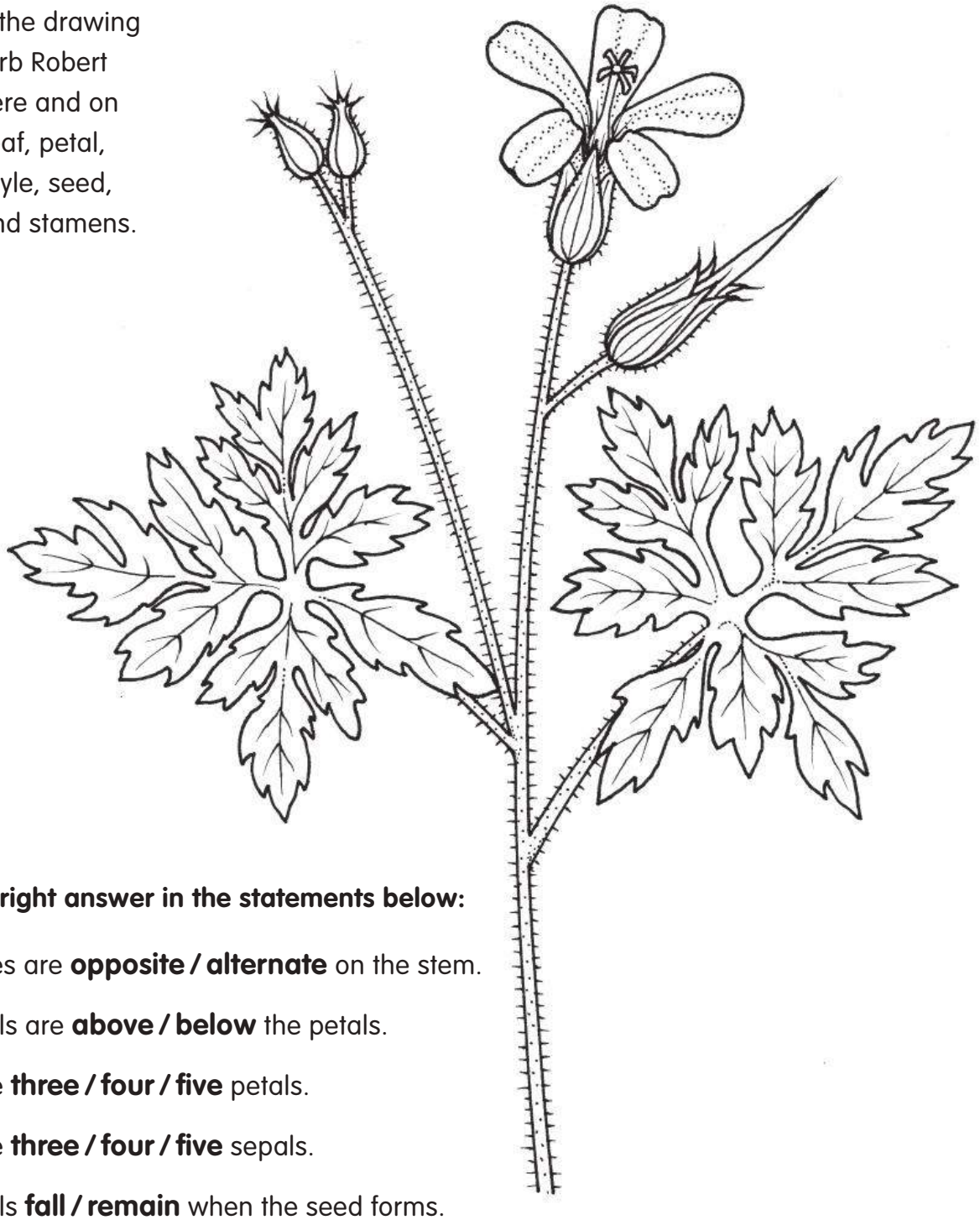
Wasps 2

Debate
There is a learned response among children that wasps are hateful, nasty things which are out to sting us. This exercise in looking at how wasps live and should make them realise the important role played by wasps in keeping down crop pests such as aphids and greenflies. Neither bees nor wasps are "better" than one another – they are both very important parts of biodiversity.

Plant introduction

Herb Robert is a woodland and hedgerow plant that flowers in Spring. It is a member of the cranesbill family, so called because of the shape of the seed.

Examine the drawing of the Herb Robert drawn here and on it mark leaf, petal, female style, seed, sepals and stamens.



Ring the right answer in the statements below:

The leaves are **opposite / alternate** on the stem.

The sepals are **above / below** the petals.

There are **three / four / five** petals.

There are **three / four / five** sepals.

The sepals **fall / remain** when the seed forms.

In a hedge, Herb Robert is part of the **ground layer / shrub layer / canopy.**

FIND OUT:

What colour are the petals of Herb Robert? _____

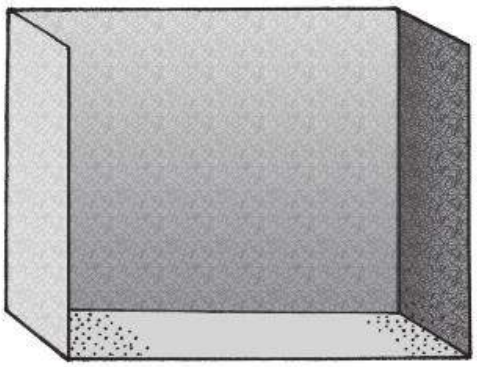
Create a hedge

Herb Robert is a hedge/woodland plant that flowers in April.

Find some growing in a hedge near your school.

Smell the flower – it has a pungent smell like that of a fox. It tastes horrible and slugs, woodlice and snails never eat it.

Following your fieldtrips to a hedge this year, you can build up a model hedge with four layers in class.



You will need: a large box of the size and shape of a large cornflakes box. Cut off one large side and one end. Stand it vertically on its other end, as illustrated.

This is where you assemble your model hedge. You may wish to cover the box and paint it green. On the bottom floor of the box is the litter layer. This will be moss and dead leaves.

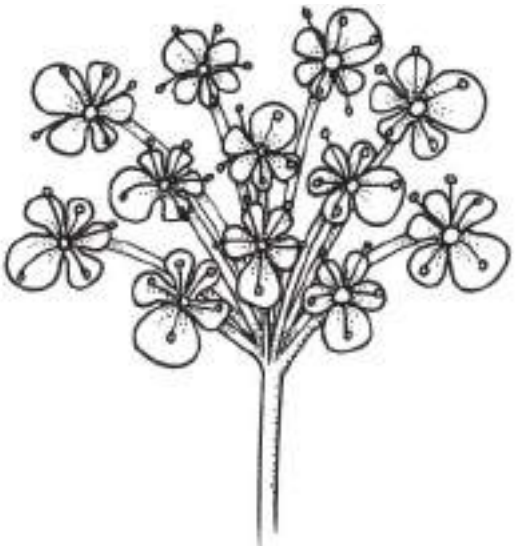
On top of this is the ground layer where the flowers grow. Collect some Herb Robert as well as other hedge flowers for this layer.

The shrub layer and canopy layer of the tall trees in the hedge complete the model hedge.

These can be collected on this fieldtrip and the whole model hedge assembled back in class.

Fieldtrip

Cow Parsley is a particularly common wildflower in May and June. It grows along hedges on roadsides and in fields. It belongs to a family of flowers called *umbelliferae* because the heads of flowers on the plant are like an umbrella.



Examine the drawing.

How many petals on each flower? _____

Are the petals all the same size? Describe them.

_____

_____

_____

FIELDTRIP

Go outside and collect a specimen of Cow Parsley. Bring it back to class and make your own drawing here. Trace the outline of a whole leaf on to this page.

Describe the smell of the flowers. _____

Look at the stem and describe it. Has it a hollow or solid stem? _____

Put the flower into the ground layer of the hedge you are making in the box.

Fieldtrip

Cow Parsley is common in hedges and is very attractive to wildlife as each little individual flower contains lots of nectar.

Find a stand of Cow Parsley.

1. Observe your Cow Parsley stand and see what flying insects appear looking for nectar.

_____

_____

_____

2. Sweep the flowers with a net and then empty the net into an open umbrella and see what is there.

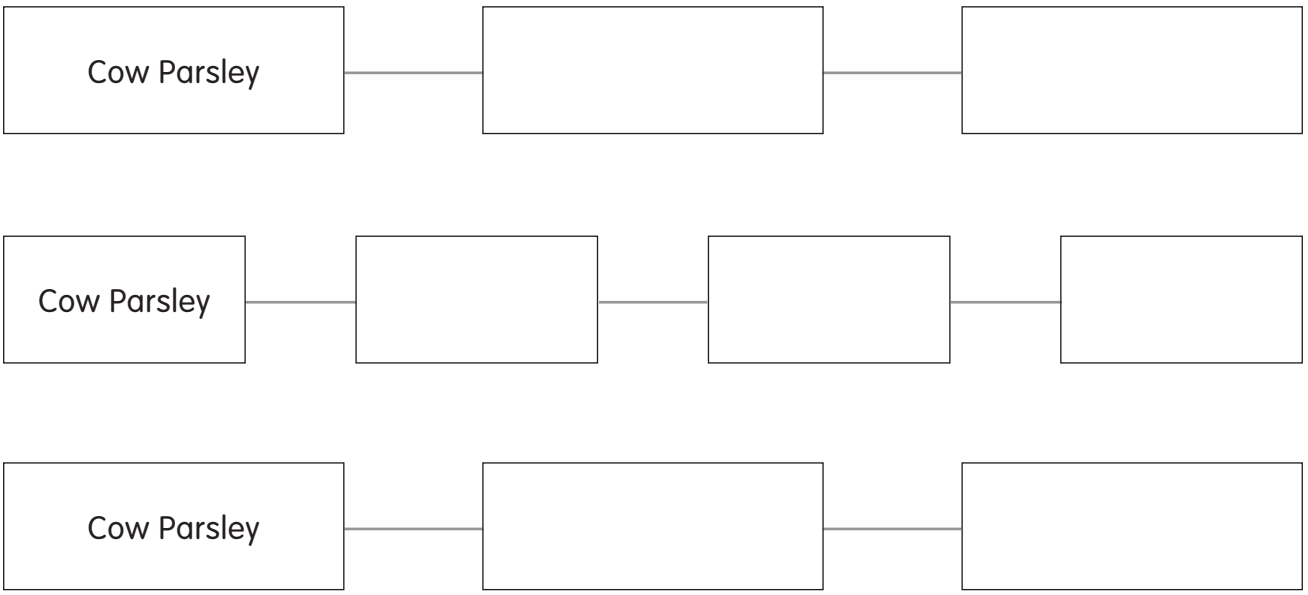
_____

_____

_____

3. Look in the dried-out stems in winter to find hibernating earwigs.

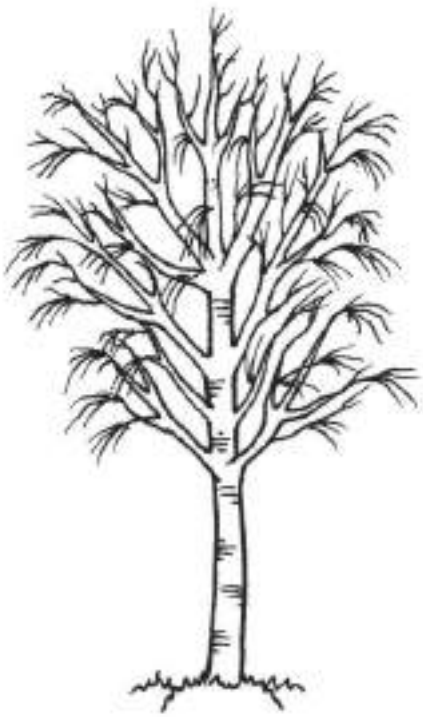
4. Use your results to make food chains with Cow Parsley at the bottom.

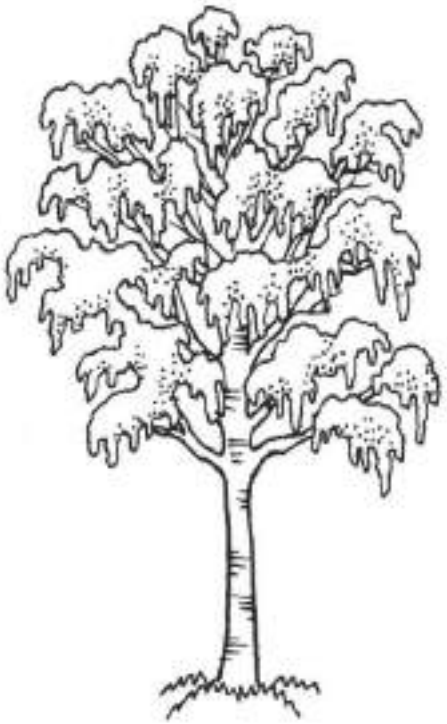


Tree study

Birch trees are commonly planted in towns, parks and school grounds.

Where is the nearest one to your school? _____





Find your nearest birch tree and study it over the school year, starting in September. Wildlife is particularly fond of birch trees and 229 insect species are associated with it.

Visit your tree every two weeks and keep a diary of whatever wildlife you find. Shake the leaves, look in cracks in the bark and search down at the bottom of the tree. Look out for flying insects.

Diary of examination of Birch tree

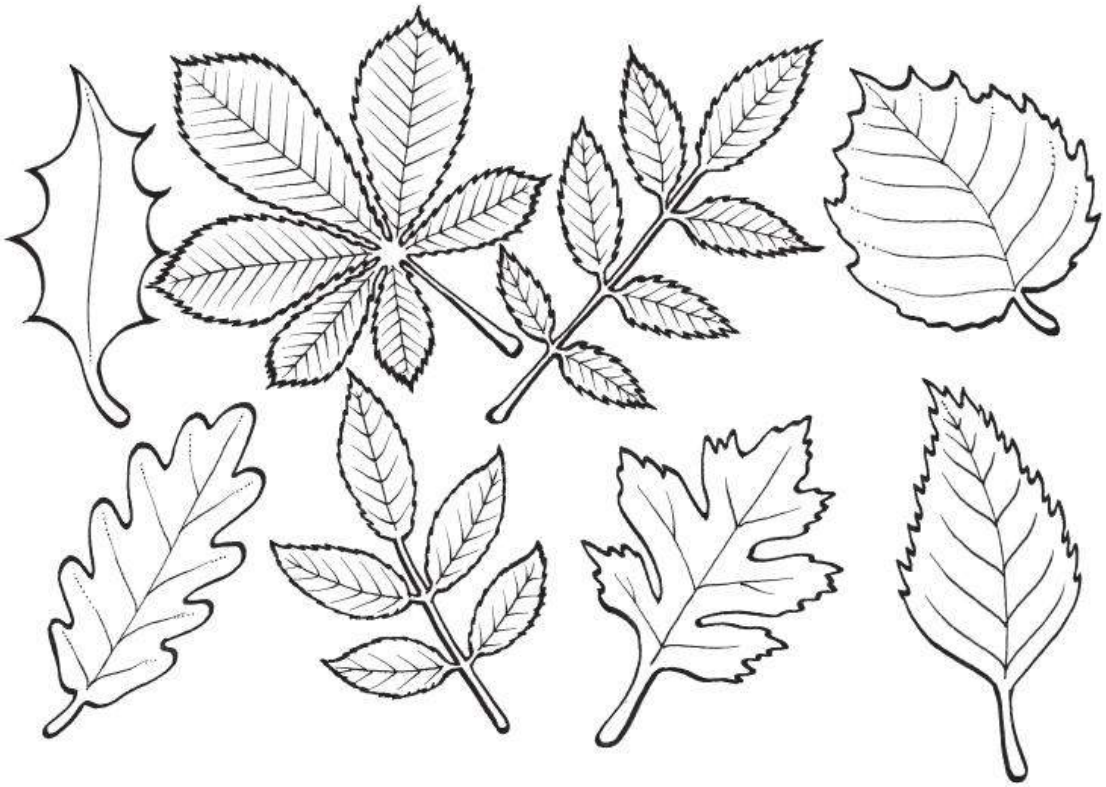
	Date	Condition of leaves	Insects found
September 1st fortnight			
September 2nd fortnight			
October 1st fortnight			

And so on until June.

Note changes in the leaves, when all the leaves have fallen, condition of bark, buds, catkins, seeds etc, Keep a note of the number and variety of creepy-crawlies found.

Plant key

By this stage, you will have learned about 8 trees in school.
Here is an outline of all the leaves to remind you.



Name each leaf. Construct a key to the eight leaves.

Helpful pointers: compound leaves, simple leaves, number of leaflets, leaf edges (prickly, wavy, toothed, deeply-cut) and leaf shape (pointed, rounded).

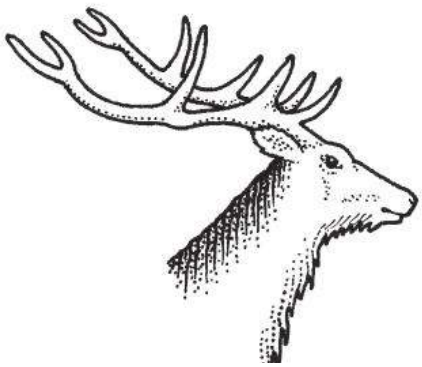
The class can be divided into groups of 4 or 5 and each group makes a key. They need not all be the same as long as they work. You can test your key on another group.

The best keys identify the leaves with the fewest steps. A typical key would have 6 steps.

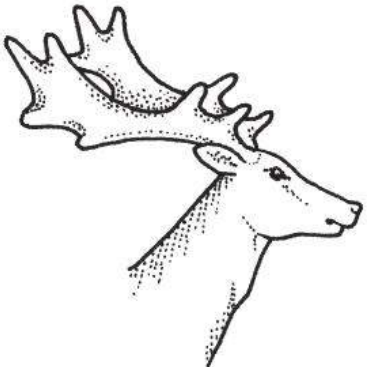
My Plant Key

Debate

Deer are herbivores that feed on grass, leaves, young growing trees and the bark of trees. There are three wild species in Ireland.



Red Deer



Fallow Deer

Sika Deer

Make two food chains with deer.

	Deer	

	Deer	

What carnivores feed on deer in Ireland? _____

Wolves are carnivores on deer but they have been extinct in Ireland since the 1700s.

What is the result of deer having no natural predator? _____

What controls the deer population in Ireland? _____

How do uncontrolled numbers of deer affect the following environments:

Native oak woodland? _____

Farmland near deer upland territory? _____

Enclosed parkland where a deer herd is kept? _____

So deer in Ireland have to be managed. But how?

Is hunting a good way to control deer numbers? _____

What other, more effective, conservation measures could be used? _____

Recently it was reported that a 4th species of deer – the Muntjac Deer – has been introduced to Ireland. Is this good or bad? _____ Why? _____

_____

Food Chain Game

Each member of the class picks one of the following species and writes the name in big letters on a piece of paper. Take turns to pick and make sure that some from each group are picked.

PLANTS	HERBIVORES	CARNIVORES	OMNIVORES	DECOMPOSERS
Buttercup	Deer	Ladybird	Robin	Earthworm
Nettle	Pigeon	Hedgehog	Fox	Woodlouse
Hawthorn	Bee	Wasp	Badger	
Oak	Rabbit	Kestrel	Blackbird	
Hazel	Swan	Frog	Jackdaw	
Primrose	Squirrel	Heron	Magpie	
Cow Parsley	Snail	Spider		
Elder	Butterfly	Bat		

One name is fixed to the back of each pupil without their seeing what the name is.

The class divides up into twos.
Each member of the pair can see the other's name, but not their own.

To find out what name is on their back, each pupil can ask their partner questions about it. The only questions allowed are Yes/No ones. They can keep asking until they get a 'No' and then it is the other person's turn.

Example

Person (wearing ladybird name) asks:

Is it an animal? Yes. Is it a carnivore? Yes. Has it wings? Yes. Is it a bird? NO.

Other person (wearing a nettle name) asks:

Is it a plant? Yes. Has it flowers? Yes. Are the flowers yellow? NO.

First person's turn again.

You can all now form a food web by standing in a circle and passing a ball of string around from each species to its food.

Identify

Crows are a family of birds that have seven species in Ireland. The most common species are Rooks, Jackdaws and Magpies.

Magpie

Jackdaw

Rook

Look carefully at the drawings above.

Which one has the longest tail? _____

Which one has the thickest beak? _____

Which one is the smallest? _____

Which one is black and white? _____

Which are in your school grounds? _____

Fieldtrip to see Crows (do this in September and again in May)

Spend 15 minutes in the school grounds looking for crows.

Which species was the easiest to see? _____

Which one was the most common? _____

Which species was walking in the school field? _____

Were they only with their own kind or were there mixed groups? _____

What species were together? _____

How many of each were there? _____

FIND OUT:

Where do Magpies nest? _____

Where do Jackdaws nest? _____

Where do Rooks nest? _____

Research

There are seven different species of crow in Ireland. You already know three. Find out what the other four species of crows in Ireland are:

1. _____ 2. _____ 3. _____ 4. _____

Crows are omnivores.

As herbivores they eat _____ .

As carnivores they kill and eat _____ .

They are also scavengers and eat things that are already dead: _____

_____ .

Because of these different methods of feeding, they can always find something to eat and so are very successful birds.

Hunting for Nests

Rooks and Magpies, in particular, make very obvious nests in Spring.

Survey your area in March before the leaves come on the trees and count the number of nests you find.

Rooks' nests _____

Magpies' nests _____

Survey

Are there more Magpie nests or Rook nests? _____

Which species nests in a colony of nests? _____

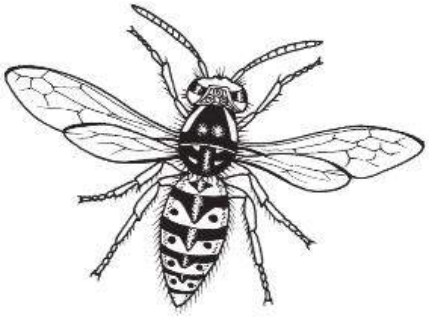
What are the advantages of this system? _____

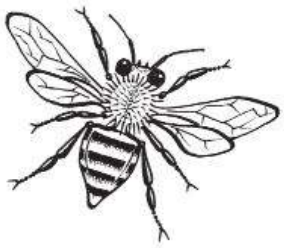
Which one nests alone? _____

What are the advantages of this? _____

Identify

Wasps spend all summer long collecting greenflies, blackflies and white flies to feed their young.





Above are drawings of a wasp, a bumble bee and a honey bee.
Can you tell which is which?

A _____ has the fattest body.

All three have _____ wings.

A _____ has no waist.

A _____ has yellow and black eyes.

Both types of _____ are hairy.

A _____ has a shiny body.

A _____ has a horizontal stripe on its thorax (middle part of its body).

A _____ has large stripes all down its body.

Label each of the three drawings above.

Mimicry

Insects with yellow and black stripes are not eaten by birds. This is because birds think all these insects have stings but actually only bees and wasps have. Other insects look like wasps and so avoid being eaten. This is called mimicry.

Look up pictures of the following insects: Hoverfly, Woodwasp, Bee Hawk Moth.

Which one is the best mimic? _____

A Debate

Wasps and Bees are very important. Without them, life on earth could not continue.

Your class is going to have a debate about the importance of bees and wasps. It is divided into two groups – one for bees and one for wasps. There will be three speakers for each side in the debate. Each half of the class helps their speakers to have information to speak about. This is called doing research. The work is divided up so that everyone finds out something.

Bees	Wasps
How many bees in a colony?	How many wasps in a colony?
What do bees eat?	What do wasps eat?
What are baby bees fed?	What are baby wasps fed?
What is the result of bees looking for food on flowers?	What is the result of wasps collecting this food on garden plants?
What crops of food depend on bees?	What crops of food depend on wasps?
Why do bees have stings?	Why do wasps have stings?
Do all bees have stings?	Do all wasps have stings?
Why do bees swarm?	Why do wasps not swarm?
What would the world be like with no bees?	What would the world be like with no wasps?

The speakers take turns to say good things about bees and wasps and try to prove which is the most important. Another class can be invited to listen to the debate.

About the Author

Éanna Ní Lamhna

Éanna Ní Lamhna is best known for her environmental expertise as a broadcaster on the radio programme *Mooney Goes Wild*. Her Co. Louth accent gives her one of the most instantly recognisable voices on radio. Her ability to bring her subject to life is legendary and her no-nonsense approach to romantic views about wildlife is well known.

She is first and foremost a botanist with degrees in both botany and ecology from University College Dublin. Her interest in the environment has expanded with her work over the years, to include birds, mammals and in particular creepy-crawlies whose doings hold a particular fascination for her. Her ability to awaken enthusiasm for these creatures in her listeners is exemplified by the remark made to her lately, "Whenever I see a spider I always think of you and put it outside instead of stamping on it."

She began work in 1974 in the Biological Records Centre — in its first incarnation in An Foras Forbartha. She quickly realised that if she was to receive any biological records from the Irish public she would first have to go and teach them about Irish wildlife. So began a career of teachers' courses, radio programmes, lecturing at third level, field trips with Secondary School pupils and most significantly of all, visits to Primary Schools to teach the pupils and indeed the teachers there, about the wildlife around them.

Her publications include *Talking Wild, Wild and Wonderful*, *Straight Talking Wild* and *Wild Dublin*. She has just completed a five-year term of office as President of An Taisce and is currently the Vice-President of the Tree Council of Ireland.

About the Illustrator

Christine Warner

Christine Warner is an illustrator and calligrapher working mostly in the field of education. She provides full colour illustrations, line diagrams and cartoons for textbooks, workbooks and posters. She has worked for many educational publishers and also for Dúchas, Forfás and Trócaire.

While she illustrates material on a wide variety of subjects, she specialises in science, having science degrees from University College Dublin and Trinity College Dublin. She particularly enjoys producing wildlife illustrations and cartoons. She has been an environmental activist for many years. Christine may be contacted via email at cwarner1@gmail.com

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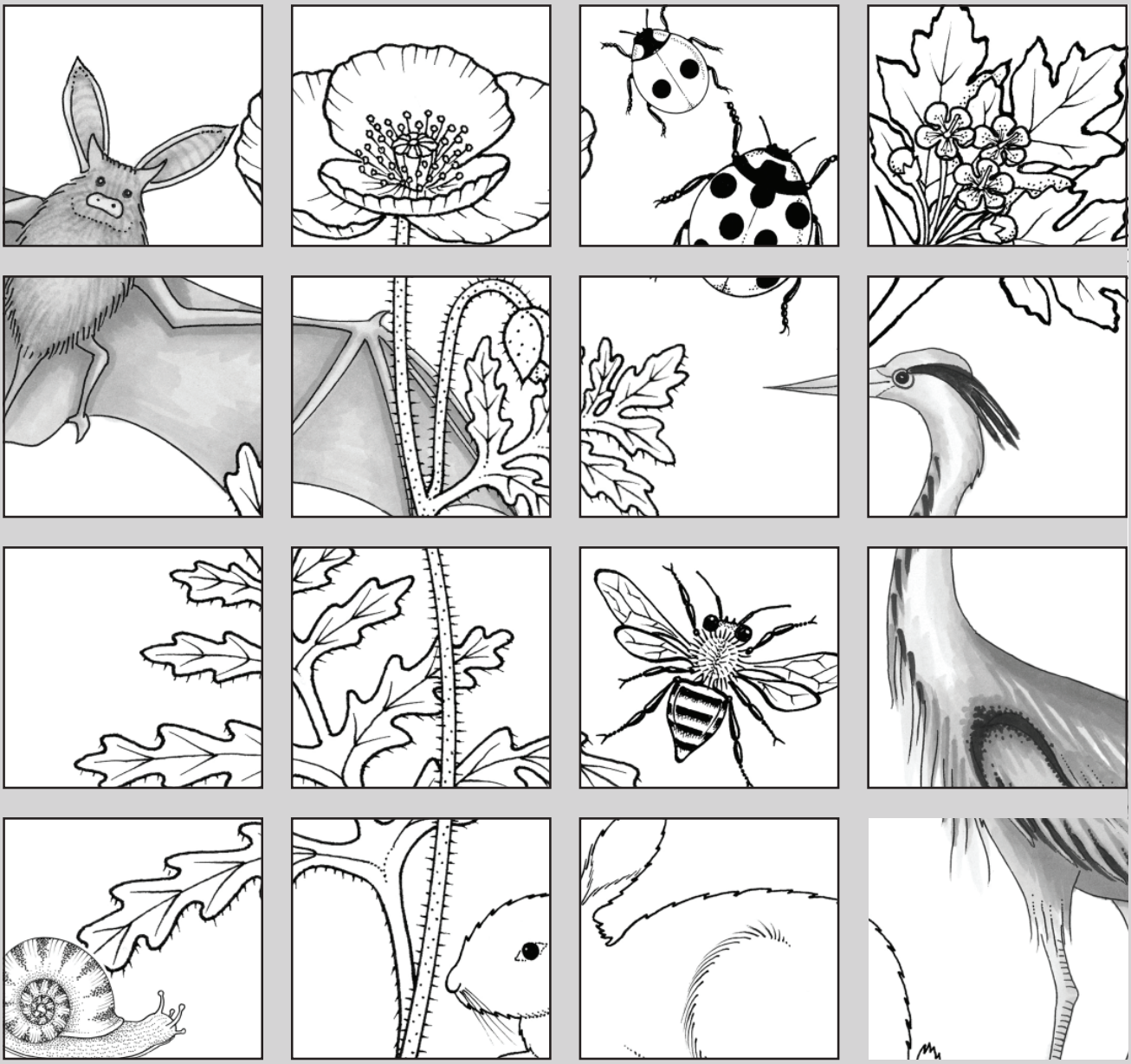

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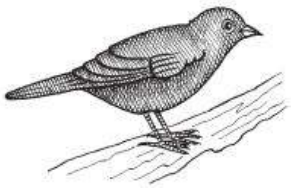

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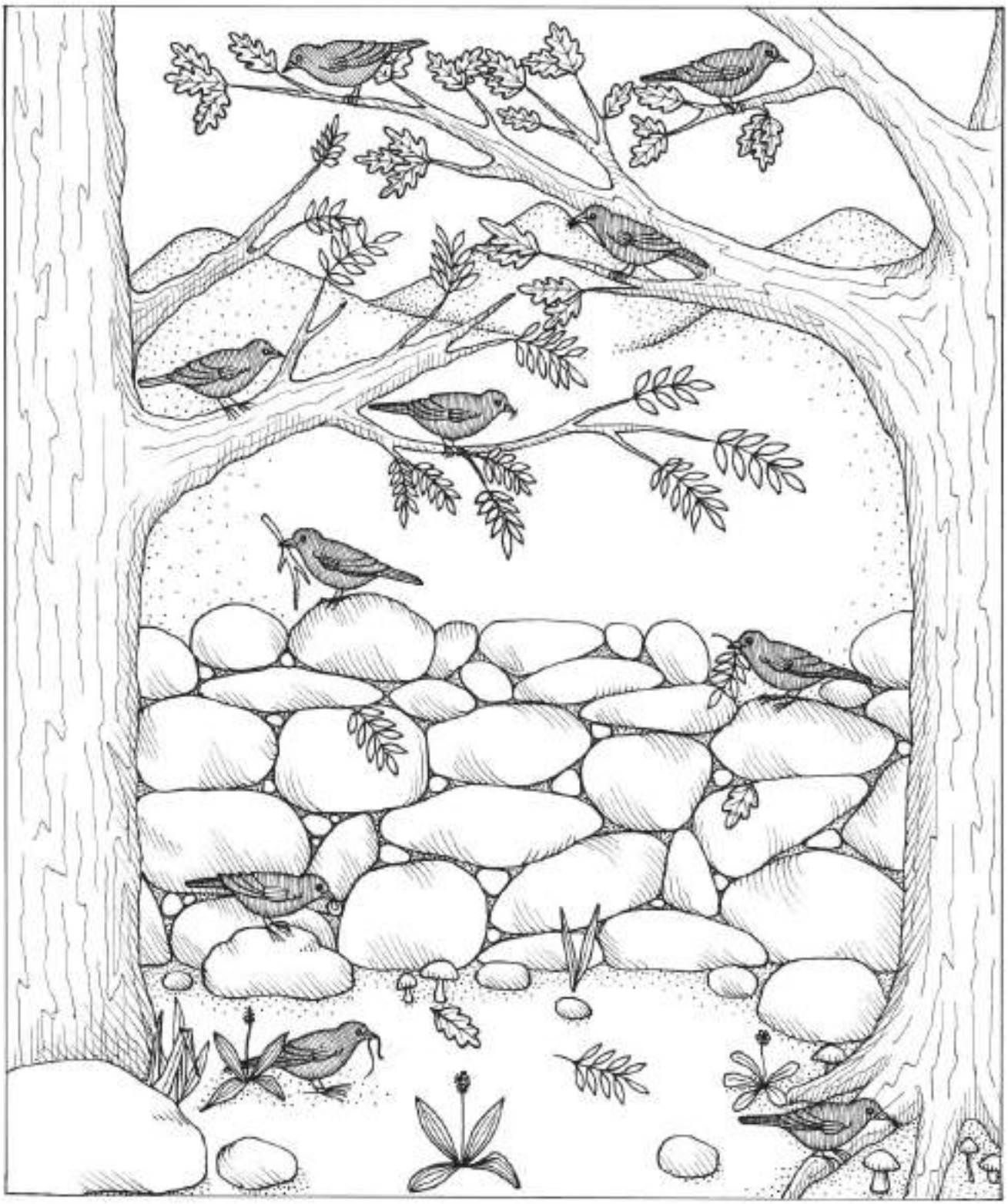

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Éanna Ní Lamhna

Léaráidí *le* Christine Warner

Dearach grafach *ag* Bogfire

Foilsithe ag An Oifig Oidhreachta
Comhairle Chontae Mhuineacháin, Muineachán
I gcomhar le
Chomhairle Chontae Laoise agus Chomhairle Chontae na Mí

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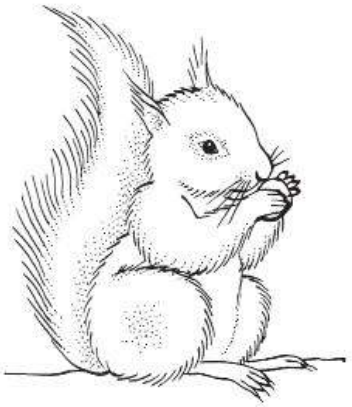

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The Heritage Council

Acknowledgements

The *Wild Things at School* series has been developed to help engage primary school children and teachers with nature. The original publication, *Wild Things at School,* a book for primary school teachers has been positively received by teachers all over Ireland and has proved to be a valuable teaching resource. This new publication of *Wild Things Worksheets* is designed to accompany the teacher's book providing material for use in the classroom. Exercises are divided into class groups, from the simplest counting for junior infants to stimulating debates and field studies for the older children.

The exercises have been created and developed by wildlife expert Éanna Ní Lamhna, who has many years experience visiting schools all over Ireland. Christine Warner's beautiful illustrations were specially commissioned to enhance the learning experience on every page. Photographs of all the wild things are included on a DVD along with the worksheets and original teacher's book. The worksheets are available in Irish and are also on the DVD.

This publication is funded by the Heritage Council Heritage Plan fund, Monaghan County Council Heritage Office and Meath County Council Heritage Office.

The publication design is by Connie Scanlon and James Fraher at Bogfire. Proof reading was undertaken by Graham Smith of Wordsmith. Irish translation of the worksheets is by Máire Mhic Thaidhg. Proinsias Ó Donnghaile proofread the Irish version. Photographs are mainly from Eric Dempsey and Shirley Clerkin.

I hope that the production of these worksheets will assist teachers to deliver the *Wild Things* programme. Enormous thanks goes to those who have been involved with this project, particularly Eanna and Christine whose creative partnership has resulted in a fantastic teaching resource. It has been a labour of love for us all; a love for nature that we genuinely wish to pass on to its future custodians.

We wish you luck with the *Wild Things* programme.

Shirley Clerkin
Heritage Officer
Monaghan County Council
heritage@monaghancoco.ie

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Introduction to Junior Infants Worksheets

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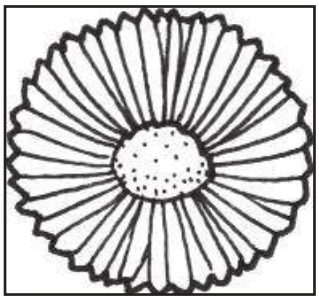
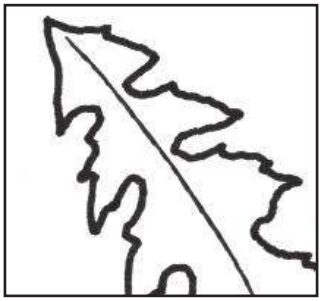
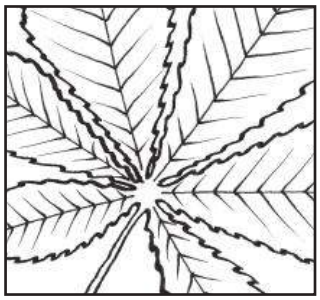
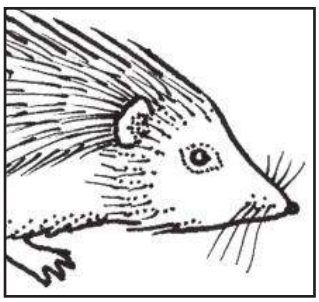
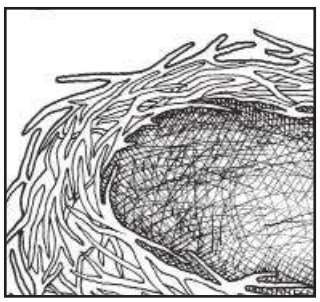
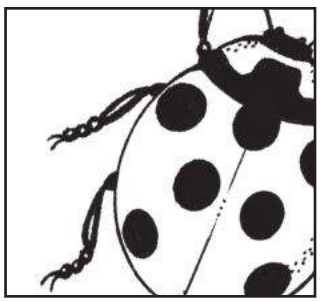
Caisearbhán	**Dandelion**
Crann Cnó Capaill	**Horse Chestnut**
An Gráinneog	**Hedgehog**
An Spideog	**Robin**
Bóinn Dé	**Ladybird**

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the children themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher who should also show the pictures of each species provided.

Worksheets are given in the same order as the species in the handbook, although this is not necessarily the order in which they should be taught. Flowers can be found in September and more easily in May and June, for instance, while the horse chestnut has leaves in September and conkers and then the branches are bare until late March. These things need to be taken into consideration. There are two worksheets for each topic – twelve in all – and they are designed to be photocopied and handed out to the pupils.

Junior Infants Teacher Notes

Daisy 1

Worksheet in three sections

Writing practice:
Pupils practise writing the letter 'd'.
d d d d d d d

Counting practice:
Pupils count the number of daisies and write the total in the boxes.

Classification:
Pupils identify the daisies from a group of flowers and colour them in.

Daisy 2

Worksheet in three sections
(Do this when daisies are in flower.)

Identification and counting:
Pupils identify and count the daisies in a picture which also contains dandelions. The picture can then be coloured in.

Fieldwork outdoors and manual dexterity:
Pupils find daisies growing outside on school lawn. Each child collects two and sticks them in to the spaces provided.

Writing practice:
Write the word daisy over the letters in pale grey daisy.

Dandelion 1

Worksheet in three sections

Counting and recognising letters:
How many letters **d** in **dandelion**
How many letters **n** in **dandelion**

Counting and following instructions:
Pupils colour two dandelions (out of a line-up of 4 dandelions).

Recognising images:
Pupils find the dandelion in a line-up of flowers.

Dandelion 2

Worksheet in three sections

Fieldwork outdoors and manual dexterity:
Pupils find a dandelion leaf outdoors and stick it in the designated space.

Counting and classifying:
Pupils identify and count the dandelions in a picture which also contains daisies.

Observation skills:
Pupils find the odd one out in a line-up of dandelions where one is slightly different.

Horse Chestnut 1

Worksheet in three sections

Recognition and colouring:
Pupils colour in the chestnut leaf and the conker in its prickly shell.

Manual dexterity, make-and-do:
Pupils colour in the drawn leaf and then cut it out. Teacher can make a "tree" in class and stick on the leaves. If this is done in autumn some of the leaves can be coloured brown.

Horse Chestnut 2

Worksheet in three sections

Recognition:
Pupils find and colour in the chestnut leaf (from an array of three different leaves drawn).

Fieldwork and dexterity:
Find a chestnut leaf and stick it to the page in the section allocated for this. Note that chestnut leaves are large compound leaves with seven leaflets. What is required here is that just one of the leaflets is stuck to the page – a whole leaf with seven leaflets would be too large.

Fieldwork:
Pupils make a bark rubbing of a chestnut trunk. They put the page against a chestnut tree and rub a crayon over the bank box – an image of the tree texture will appear in the box.

Hedgehog 1

Worksheet in three sections

Counting:
How many hedgehogs – from a line-up of four hedgehogs?

Counting, Colouring and following instructions:
Pupils colour two hedgehogs only, in a line-up of five hedgehogs.

Visual and manual skills and elementary food chain:
Pupils draw the line the hedgehog must take through the maze to get to its food.

Hedgehog 2

Worksheet in three sections

Drawing skills:
Pupils finish the drawing of a hedgehog that has been presented as an incomplete drawing. They must then add the spines themselves.

Classification and association skills:
Lead the hedgehogs to the snails. Pupils should draw lines to join one hedgehog to one snail in a picture that has a group of hedgehogs and snails.

Writing skills:
Pupils write out the word **hedgehog** over the faint grey outline.

Robin 1

Make-and-do worksheet

Manual Dexterity:
This worksheet has a drawing of a robin, eggs and a nest. Pupils are asked to colour in the robin (brown back with red breast), the eggs (white with brown spots) and the nest made from twigs and moss. They then cut out the robin and the eggs, cut a slit at the top of the nest and insert the robin so that it is sitting on the nest. The eggs can be stuck underneath.

Robin 2

Make-and-do worksheet

Manual Dexterity, colouring and writing:
This worksheet, when folded in four, forms a Christmas card. Pupils colour it in and write on the four sections, as indicated. They can colour-in the border on each page, too.

Ladybird 1

Worksheet in three sections

Counting and classification:
Pupils match the ladybirds. There are six in the drawing – three with two spots and three with seven spots. They can colour these ladybirds in red with black spots.

Counting and manual dexterity:
Pupils complete the drawing of a ladybird by joining the dots. They colour it red. Then they cut out the spots and stick them to the picture in the correct places.

Writing:
Pupils write the word **ladybird** over the pale grey outline of the word. ladybird

Ladybird 2

Worksheet in two sections with extra third option

Recognition and classification:
Pupils find the ladybirds in a picture that also contains flowers, hedgehogs etc.

Counting and following directions:
Pupils colour only the two-spot ladybirds in a group of ladybirds that contain a selection of species.

EXTRA OPTION
Accurate Drawing (on a separate blank page supplied by the teacher):
Pupils draw a picture of a ladybird in the box on the page provided – it should be an accurate 2- or 7-spot one. No ladybirds exist with 3, 4, 5, 6, 8, or 9 spots so make sure they do it scientifically correct. This is not a cartoon but a proper drawing of a ladybird to the best of their ability.

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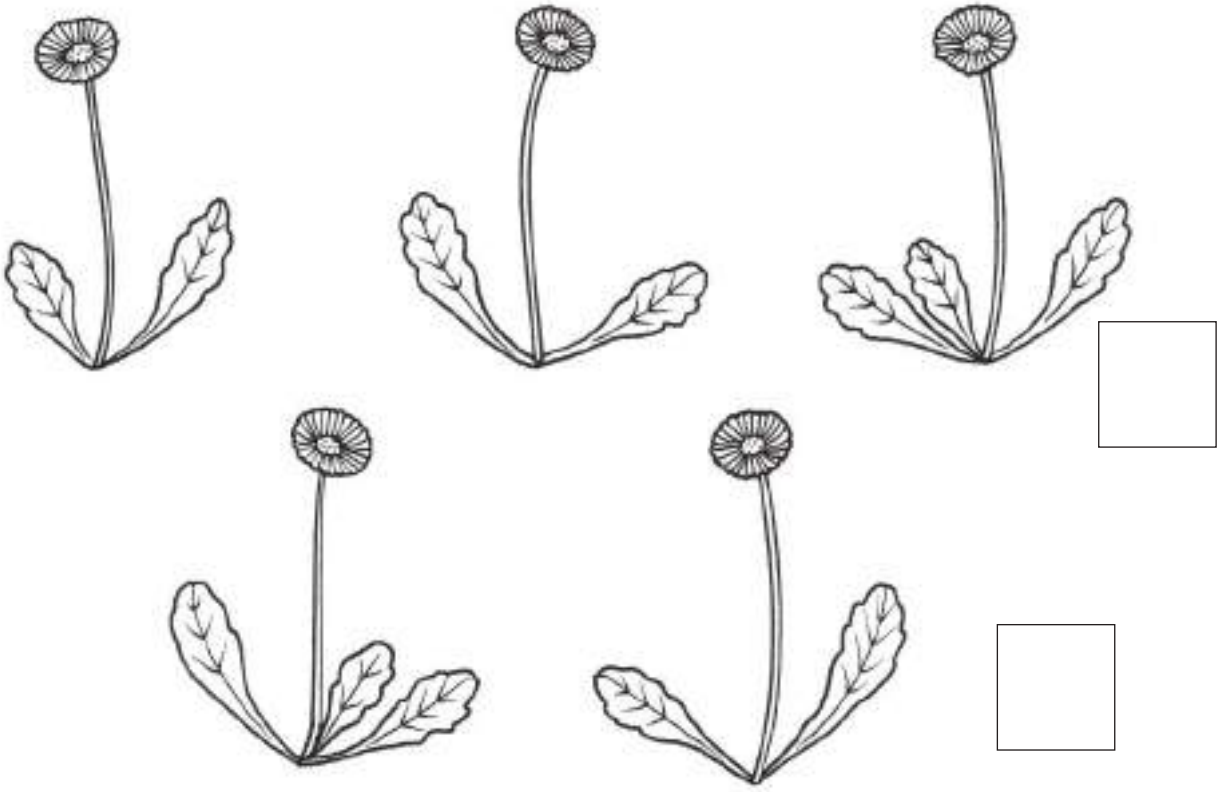
Cé mhéad nóinín?



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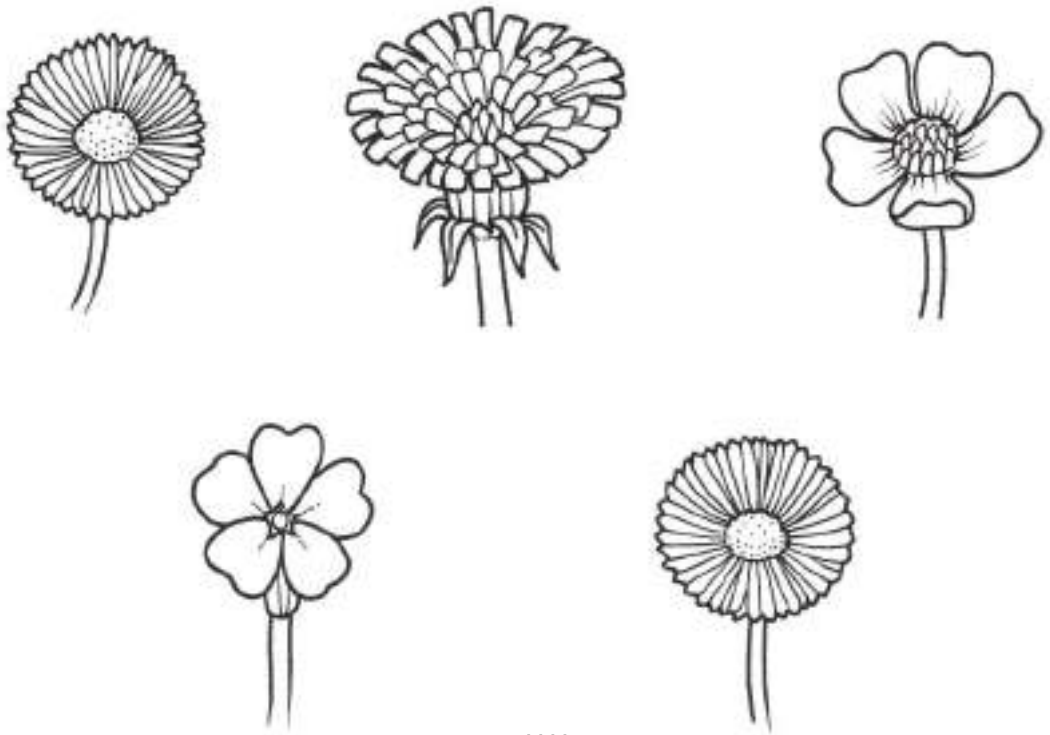

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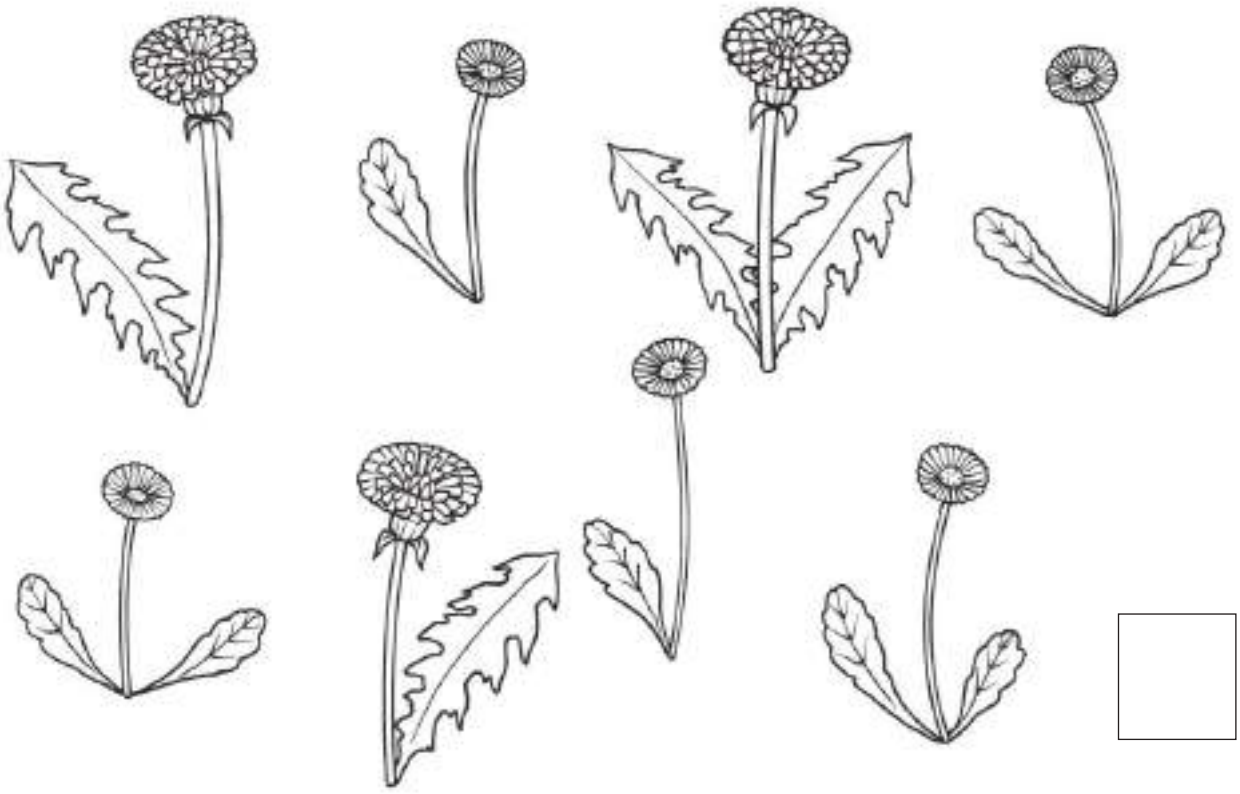


Téigh amach agus faigh dhá nóinín agus greamaigh den leathanach iad.

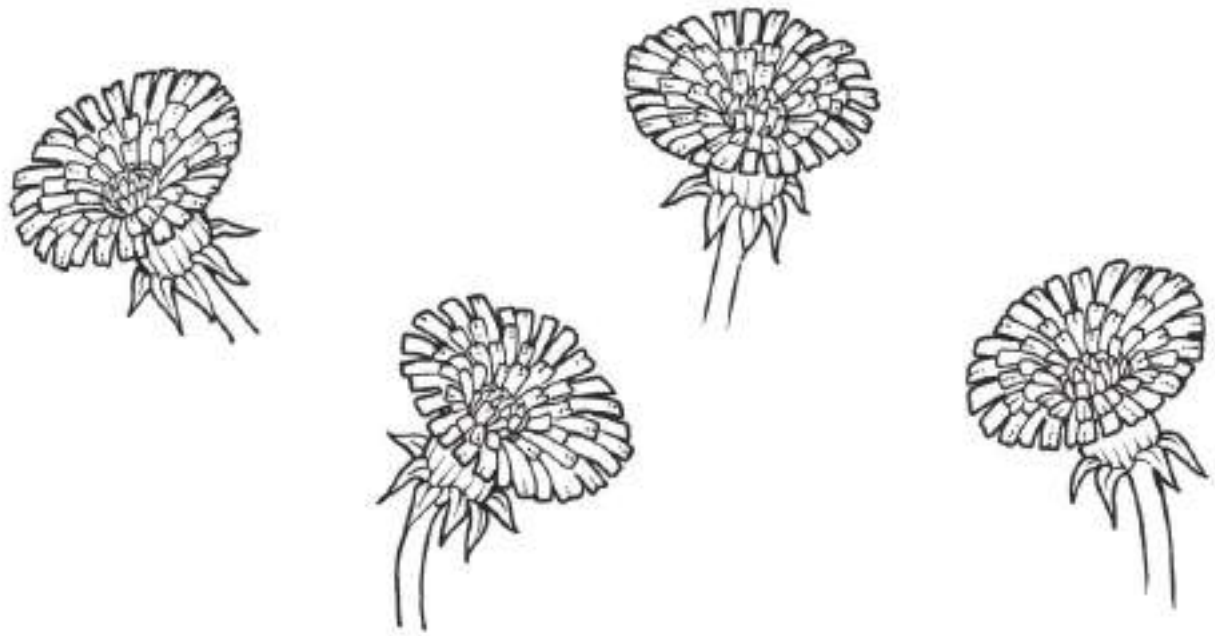
Líon isteach an focal 'nóinín'.

nóinín

Caisearbhán

Cé mhéad c? ☐ **Cé mhéad a?** ☐

Dathaigh dhá chaisearbhán.



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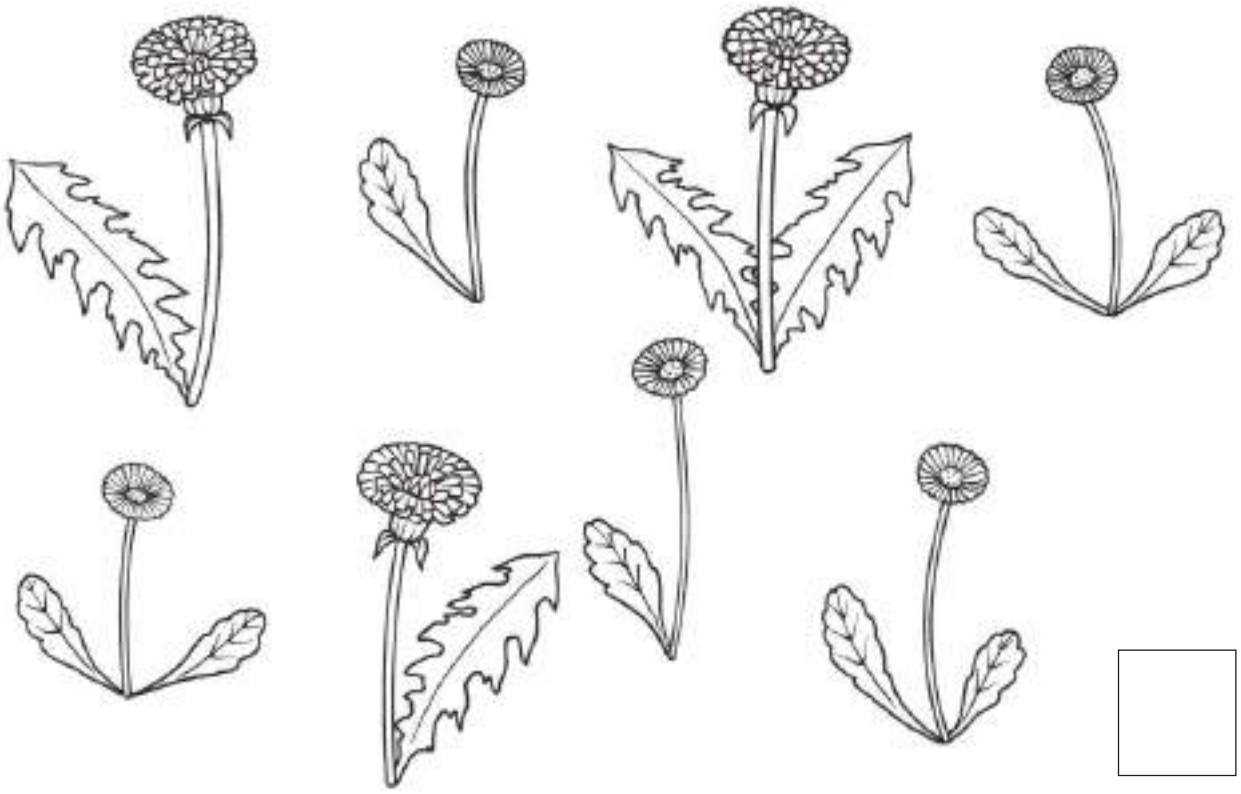
Cé mhéad caisearbhán?



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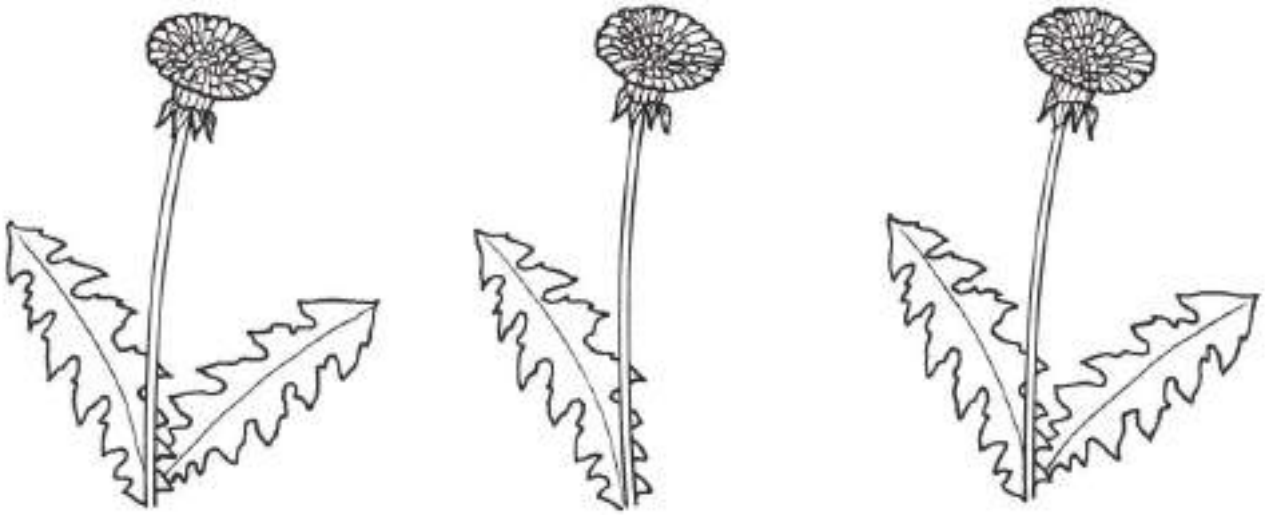

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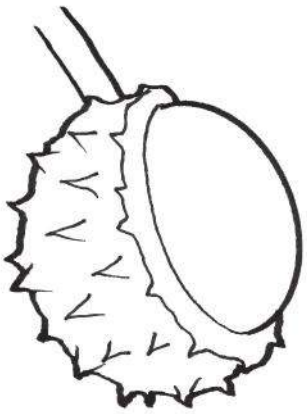

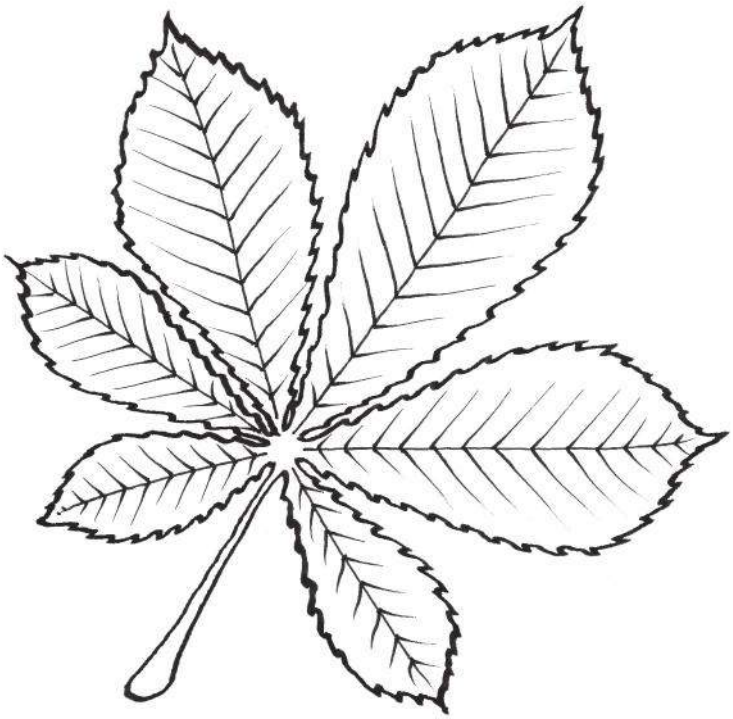

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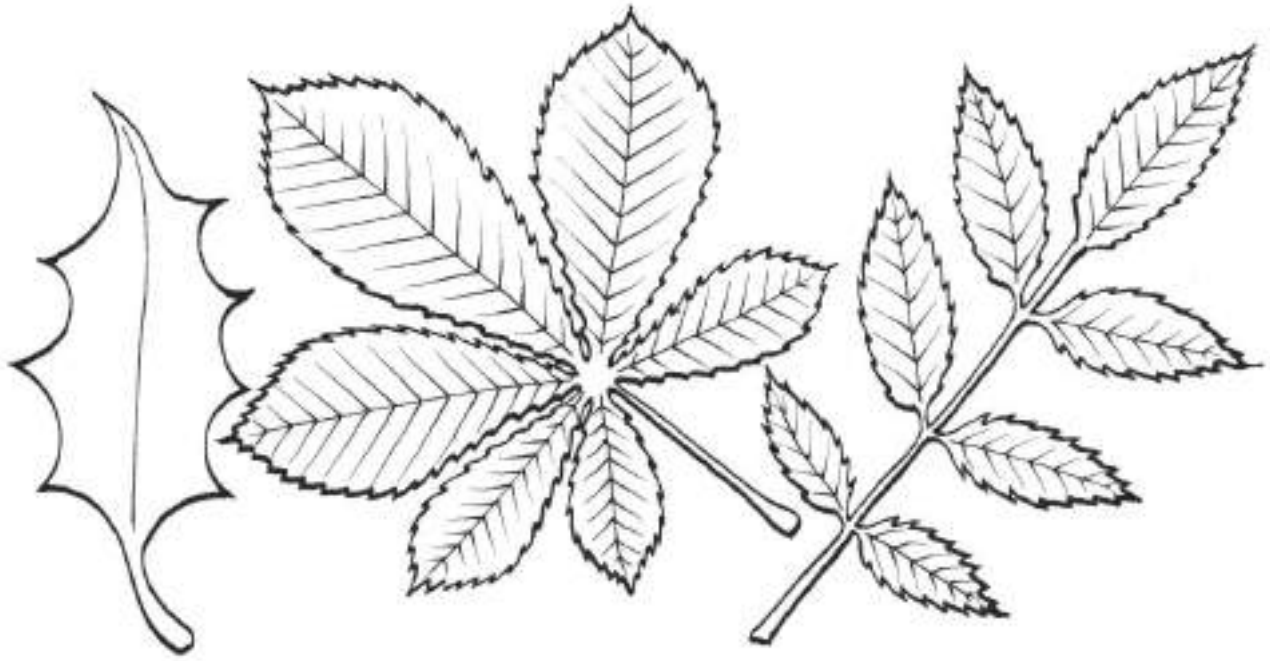

Aimsigh duilleog agus greamaigh anseo í.

Déan cuimilteán le coirt ón gcrann cnó capaill.

Cé mhéad gráinneog?

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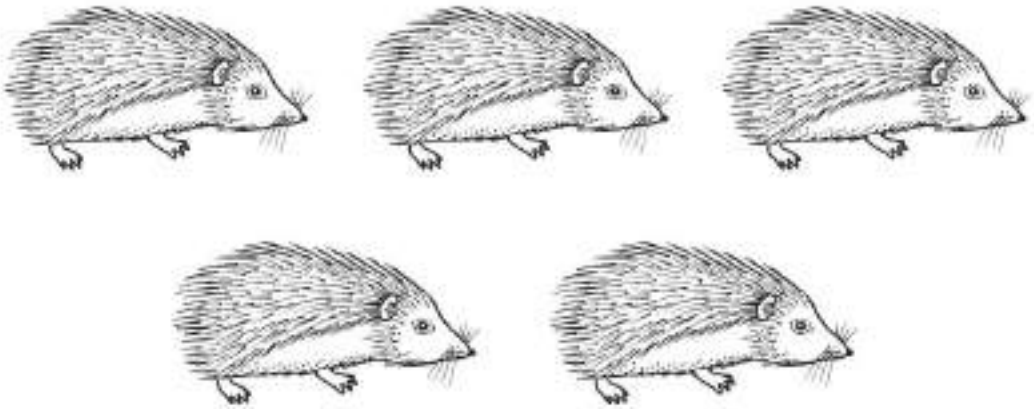

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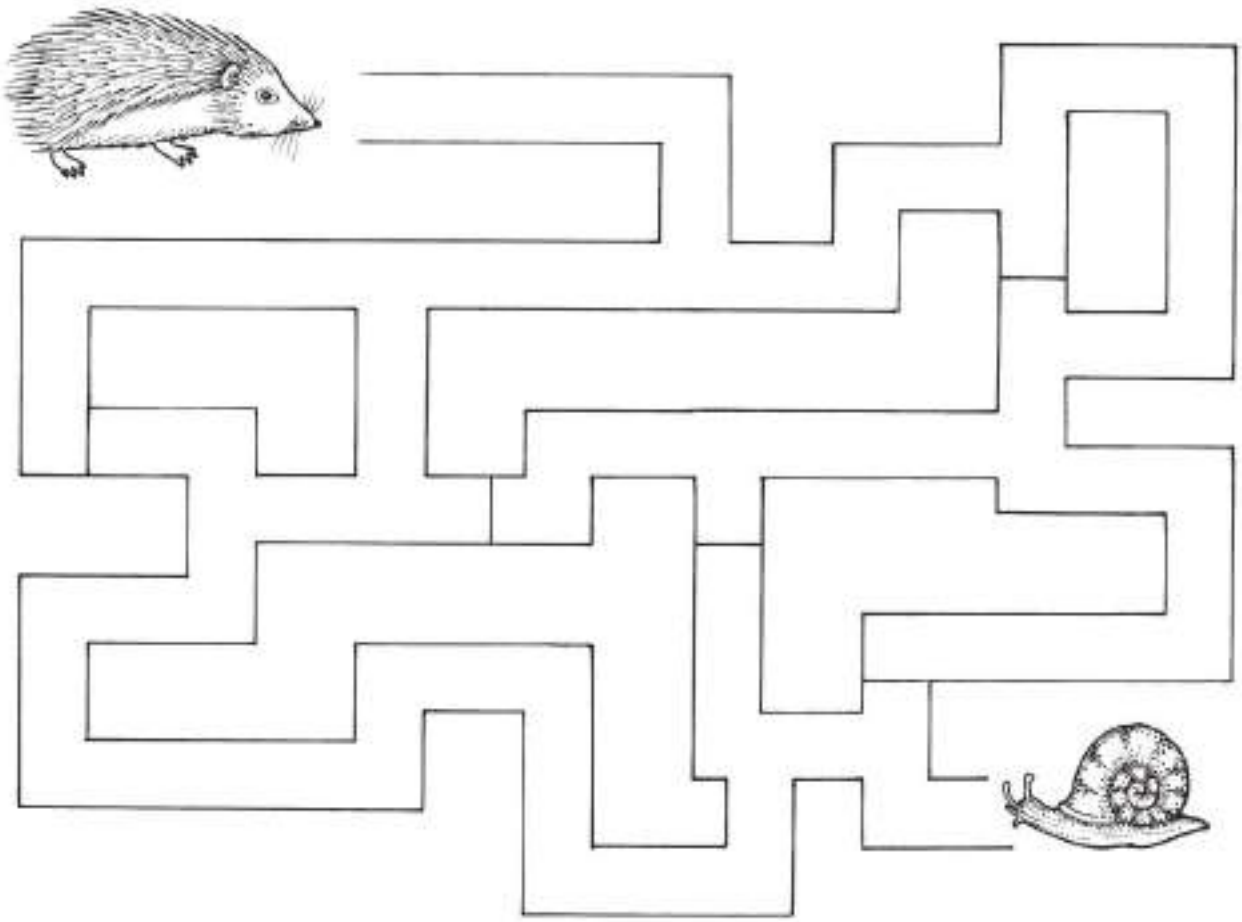
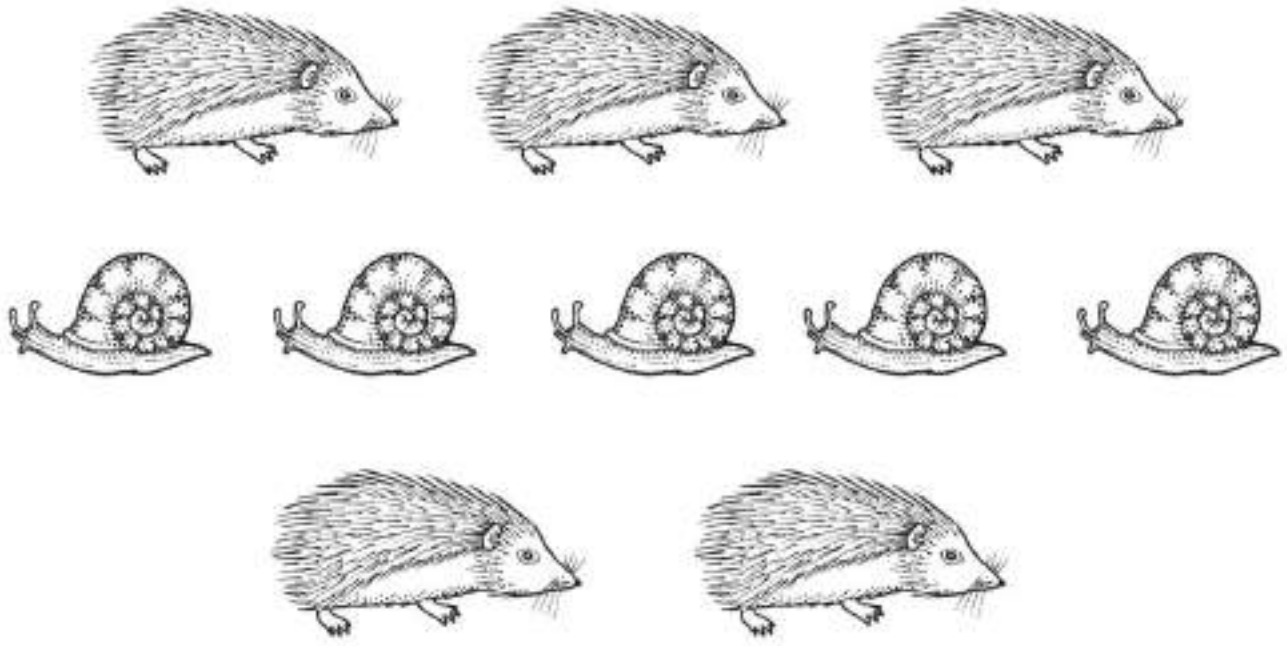


Críochnaigh an léaráid seo den ghráinneog.

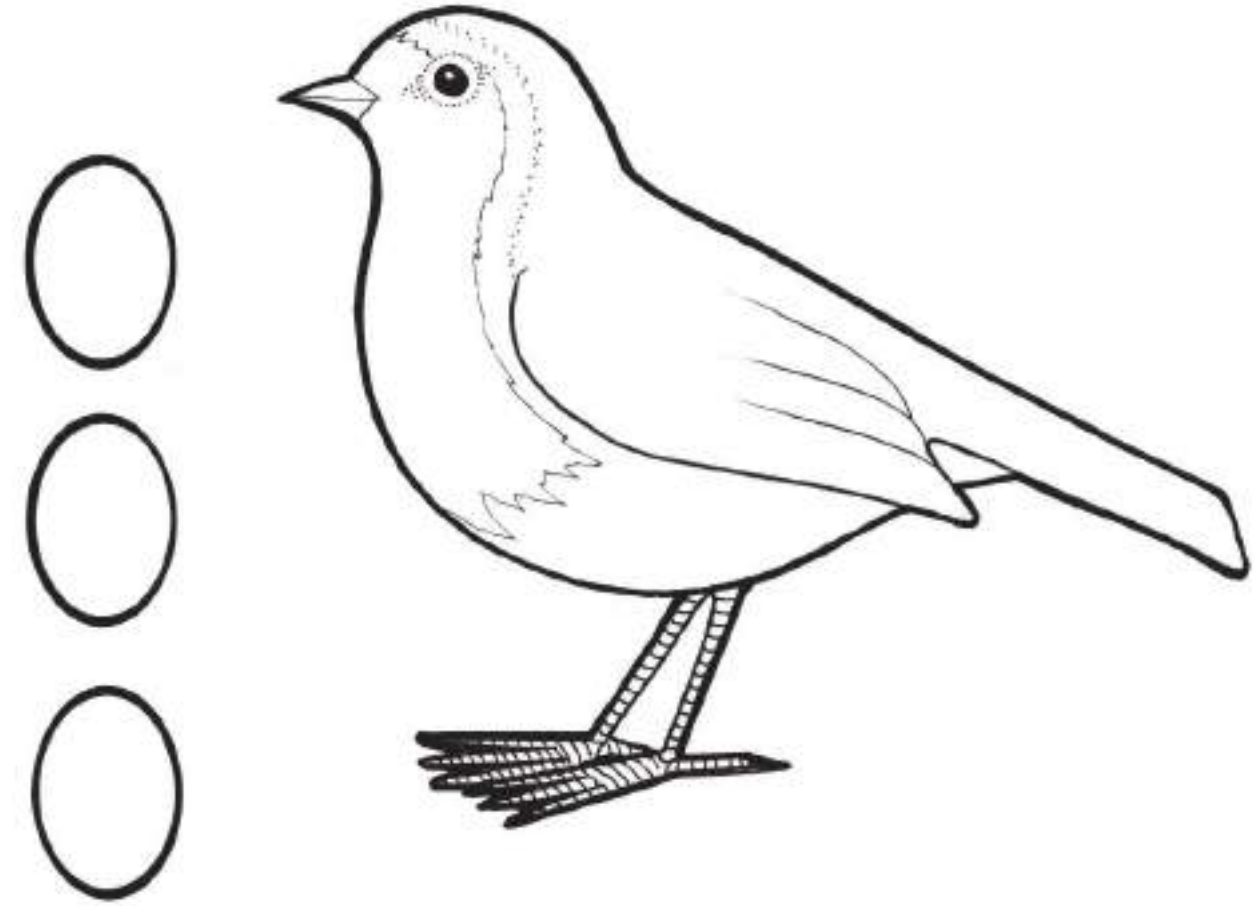
Treoraigh gach gráinneog chuig a cuid bia trí líne a tharraingt.

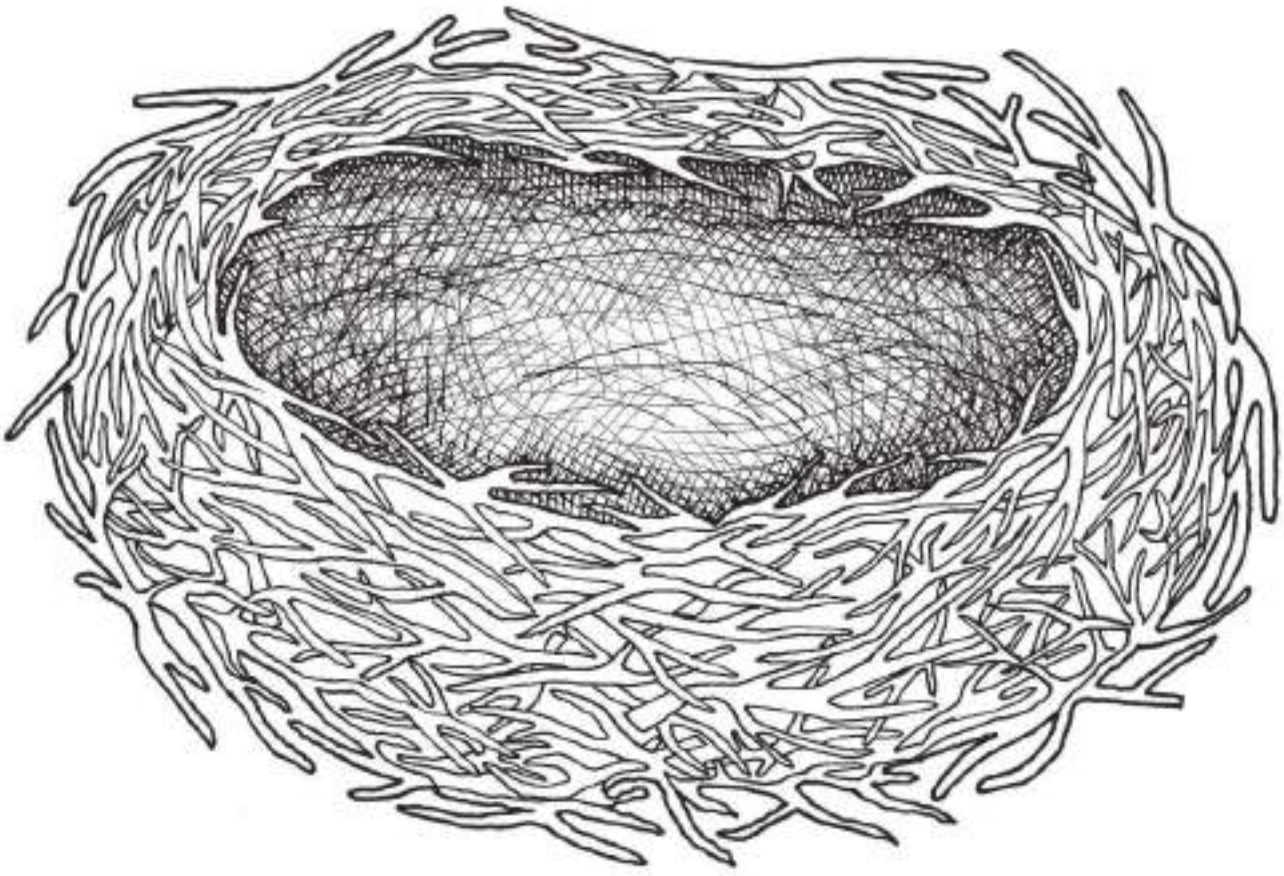


Scríobh an focal 'gráinneog'.

gráinneog

Gearr amach an spideog agus an ubh agus greamaigh isteach sa nead iad. Dathaigh an pictiúr.

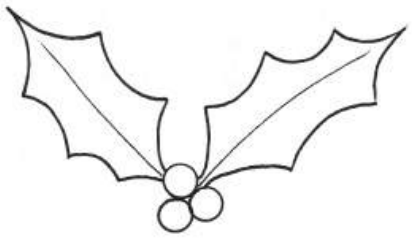




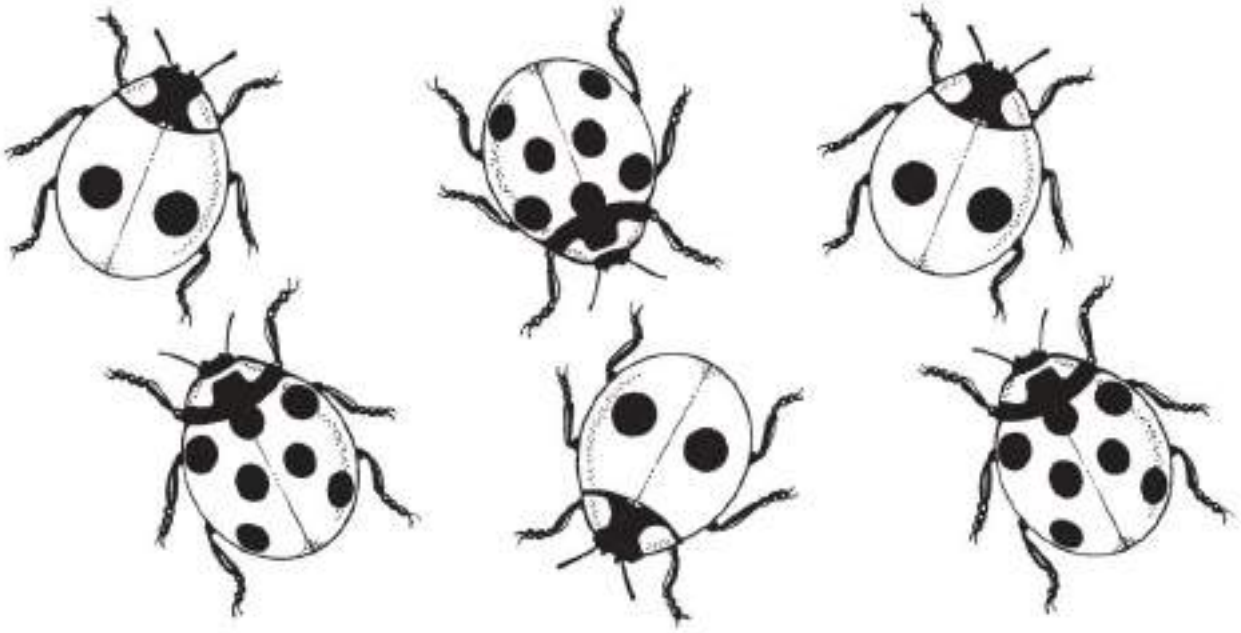
Déan cárta Nollag. Scríobh 'Nollaig Shona'os cionn na spideoige. Ceangail na poncanna chun an fear sneachta a chríochnú. Dathaigh an cárta agus fill é.

ó

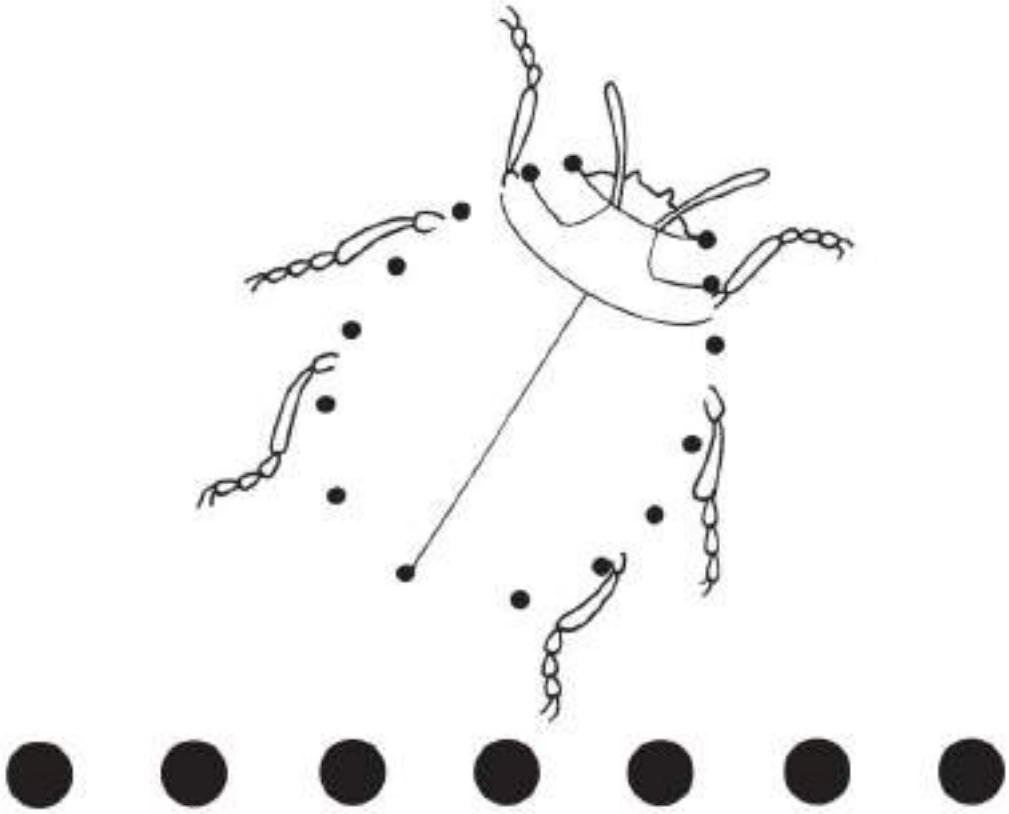
Do



Déan gach bóín Dé a mheaitseáil le ceann eile.
Cuir ciorcal timpeall ar cheann ar bith a bhfuil 7 spota uirthi.



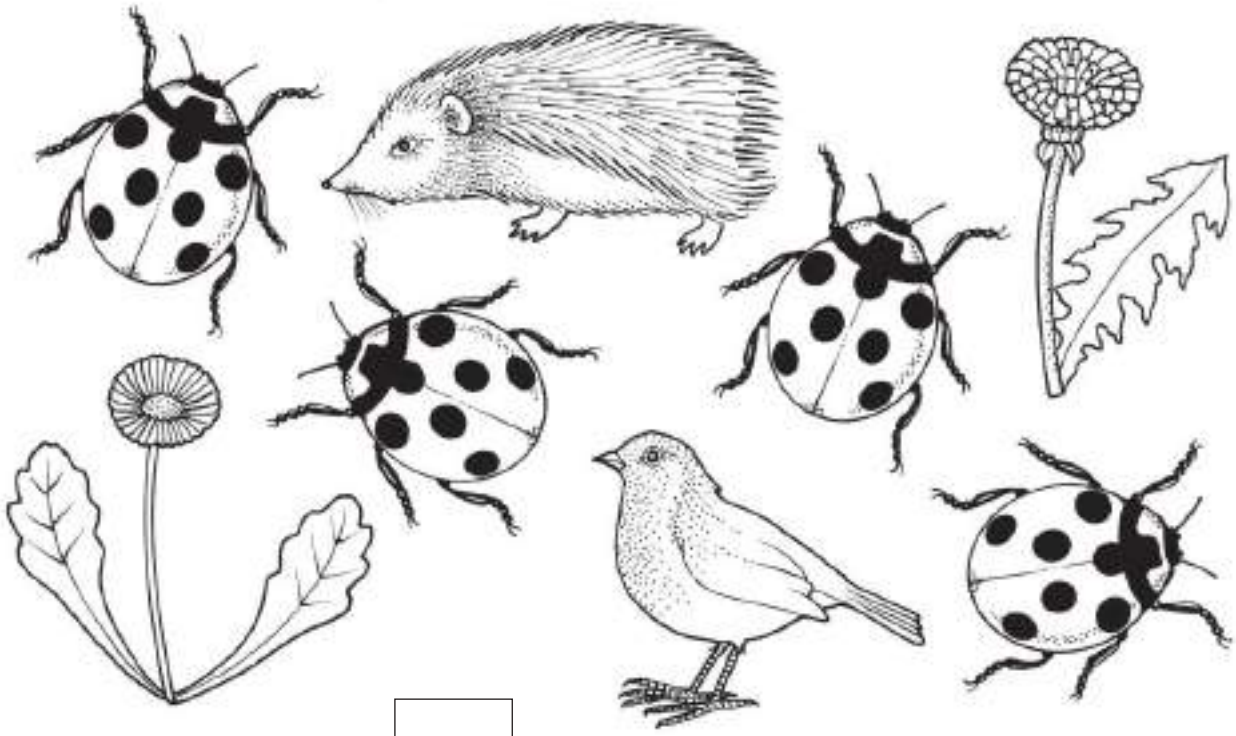
Ceangail na poncanna chun an léaráid seo den bhóín Dé a chríochnú.
Ansin gearr amach na spotaí agus ceangail de dhroim na bóín Dé iad.



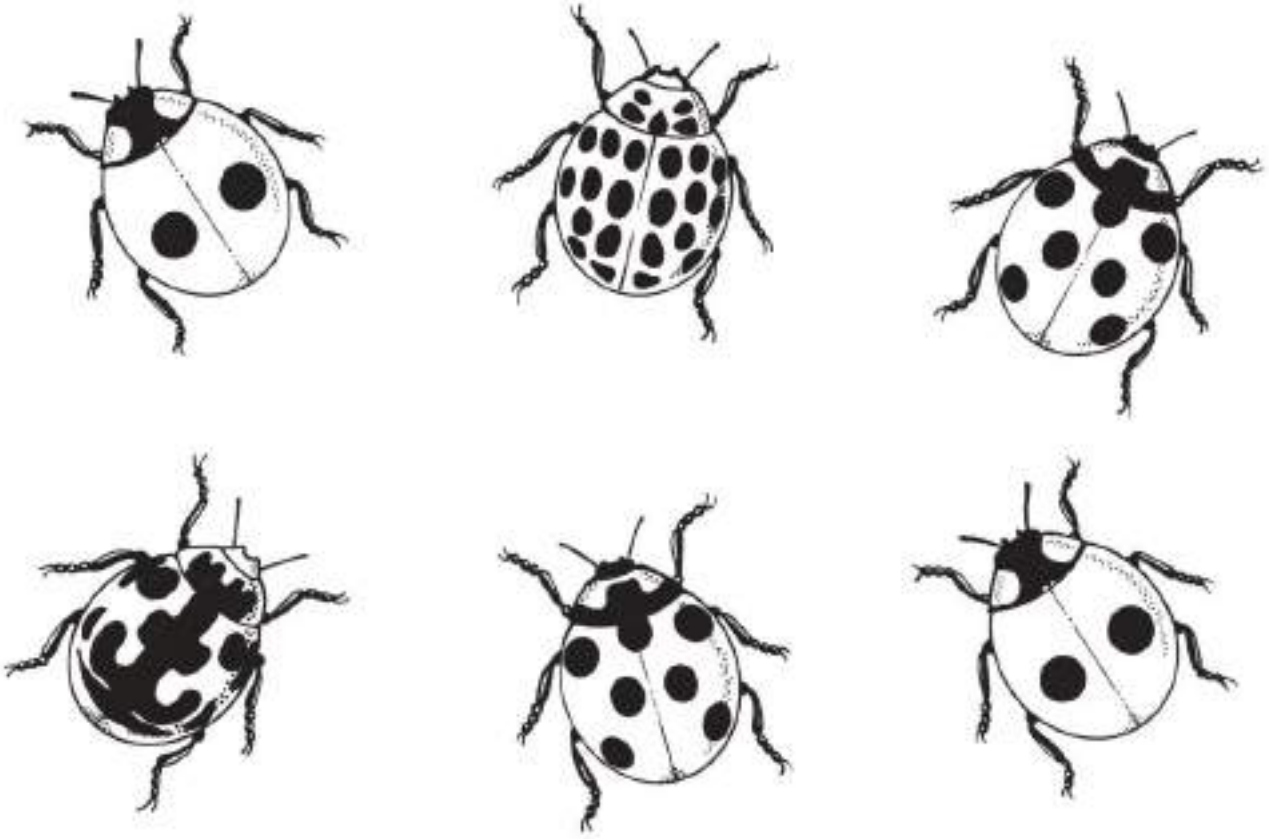
Scríobh 'bóín Dé'.

bóín Dé

Cé mhéad bóín Dé?



Dathaigh aon bhóín Dé a bhfuil dhá spota uirthi.

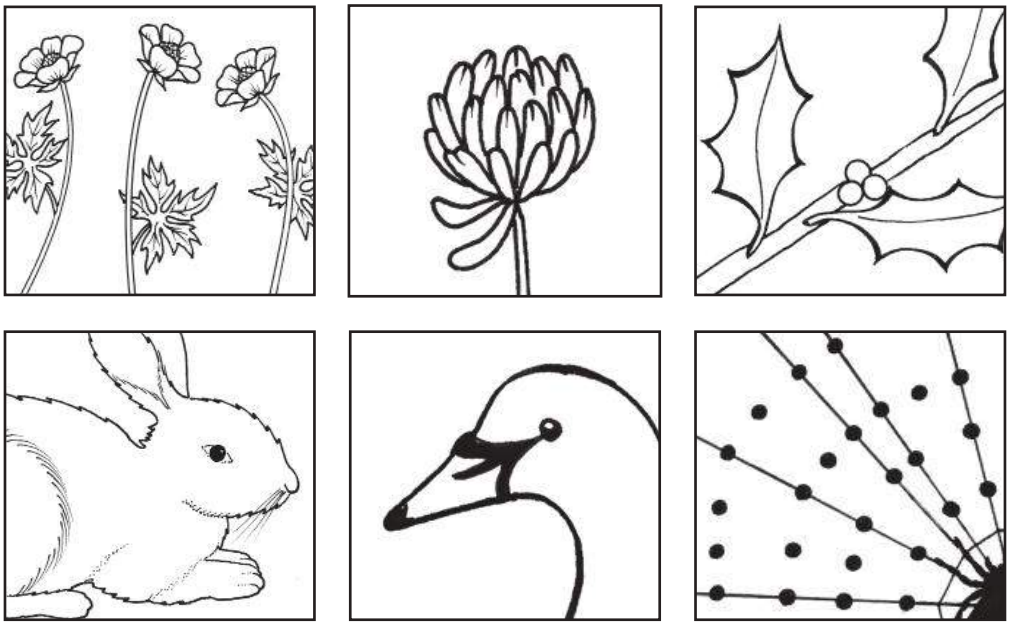


Introduction to Senior Infants Worksheets

Fearbán	**Buttercup**
Seamair bán	**White Clover**
Cuilleann	**Holly**
Coinín	**Rabbit**
Eala	**Swan**
Damhán alla	**Spider**

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher who should also show the pupils the pictures provided of each species.

Worksheets are given in the same order as the species in the handbook, although this is not necessarily the order in which they should be taught. Buttercups and clover can be found in September and more easily in May and June. Holly has leaves all the year round and berries in winter. Spiders are most easily seen in September. These things need to be taken into consideration. It is very important that the pupils be brought out into the school grounds to look for the plants and trees. It is not the same if the teacher brings in the plants. **N.B. Clover and buttercups grow and flower in un-mown sections of grass so get the caretaker to leave a section un-mown.** There are two worksheets for each topic – twelve in all – and the worksheets are designed to be photocopied and handed out to the pupils.



Senior Infants Teacher Notes

Buttercup 1

Worksheet in three sections

Writing practice:
Pupils practise writing the word **buttercup**

Counting practice and letter recognition:
Pupils count the number of different letters in the word

Following instructions:
Pupils colour in only 4 of the 6 buttercups drawn.

Classification:
Pupils identify the buttercups from a group of flowers and colour them in.

Buttercup 2

Worksheet in three sections

(Do this when buttercups are in flower)

Writing and letter recognition:
Pupils fill in the missing letters **buttercup**

Fieldwork outdoors and manual dexterity:
Pupils find buttercups growing outside in an un-mown area of school field. Each child collects one and sticks it in to the space provided. A buttercup should have 5 petals.

Accurate drawing:
Pupils should be encouraged to do an accurate drawing, with the correct number of petals.

Clover 1

Worksheet in three sections

Practising writing: **white clover**

Counting and recognising letters: How many letters in the two words – **white clover** ?

Observational skills:
Pupils connect each bee to each clover with a line.

Accurate drawing:
Pupils complete the drawing of the clover as accurately as they can. They then colour it in.

Clover 2:

Worksheet in three sections

Species recognition:
Pupils recognise the clover leaves among the other leaves drawn. They will already have been drawing the plant on the Clover 1 worksheet.

Counting practice:
Pupils are asked to count the leaflets – 3 to a leaf – not the number of leaves.

Fieldwork:
Clover plants should be found in an un-mown section.

Holly 1

Worksheet in three sections

Writing practice:
Write the word holly twice.

Counting practice:
How many berries?

Colouring accurately:
Pupils colour in the holly and berries.

EXTRA OPTION
Field work, if possible (using a blank sheet provided by the teacher):
Pupils find a holly tree and do a bark rubbing with pencil

Holly 2:

Worksheet in three sections

Observational skills:
Lead the birds to the berries – draw lines from bird to berry.

Counting and observational skills:
Pupils count the number of prickles in each holly leaf and write each total below each leaf.

Knowledge and remembering lesson on holly taught by teacher:
Birds are thrush, blackbird, robin, swallow and heron. Only thrush and blackbird eat berries (robins, herons and swallows don't).

Rabbit 1
Worksheet in three sections

Knowledge test:
Rabbits live in a burrow (not in a nest or a web)

Logic skills:
Pupils find the right string that leads the rabbit to its burrow.

Manual dexterity:
Pupils practise colouring.

Rabbit 2:
Make-and-do worksheet

Manual dexterity, colouring and writing:
This worksheet, when folded in four, forms an Easter card. Pupils colour it in and write on the four sections, as indicated. They can colour in the border on each page too.

Swan 1
Worksheet in three sections

Writing practice:
Pupils practise writing the word swan

Observational skills:
Spot the difference – three mute swans with s-shaped necks and one whooper swan with a straight neck and black-tipped bill.

Drawing skills:
Pupils finish drawing the swan, then colour it in.

Swan 2
Worksheet in three sections

Scientific knowledge:
Basic food chain – a swan only eats weeds in water and bread. It does not eat fish or ducks as it is a herbivore.

Manual dexterity:
Pupils cut out the swans and stick them in the picture provided – one in the air and one on the water.

Spider 1
Worksheet in three sections

Writing practice:
Pupils practise writing the word spider

Logic skills:
Find a way through the maze to the centre.

Drawing skills:
Pupils carefully and accurately finish drawing the spider. (N.B. all legs are attached to head section).

Spider 2
Worksheet in three sections

Observational skills:
Pupils join, with lines, the matching sets of spiders

Drawing skills:
Pupils join the dots and complete the spider's web.

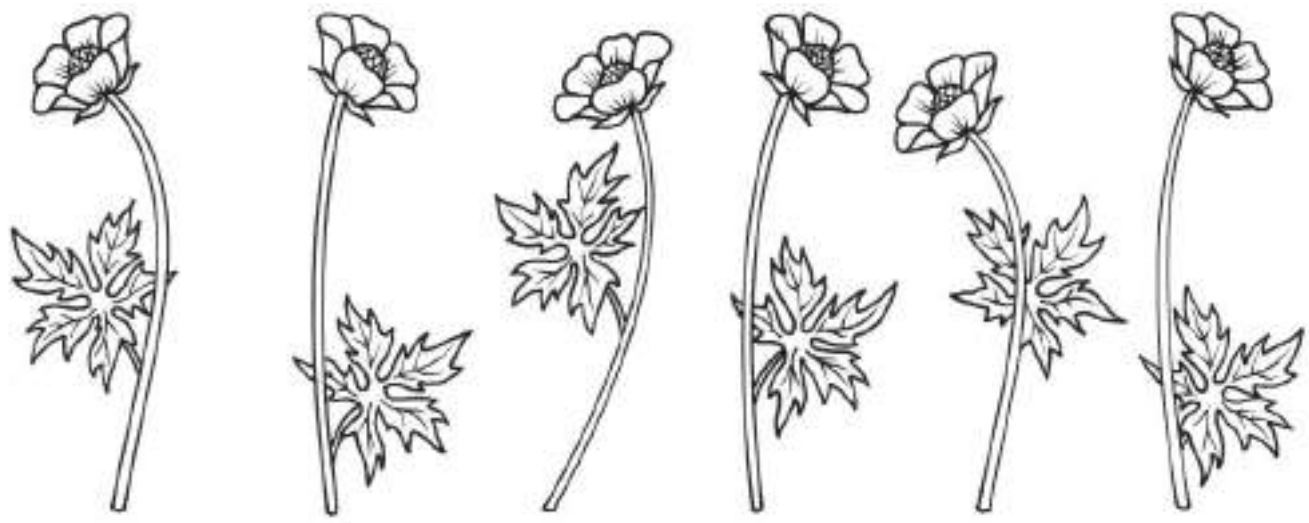
Manual dexterity:
Pupils cut out and paste flies into drawn web.

Scríobh an focal 'cam an ime'.

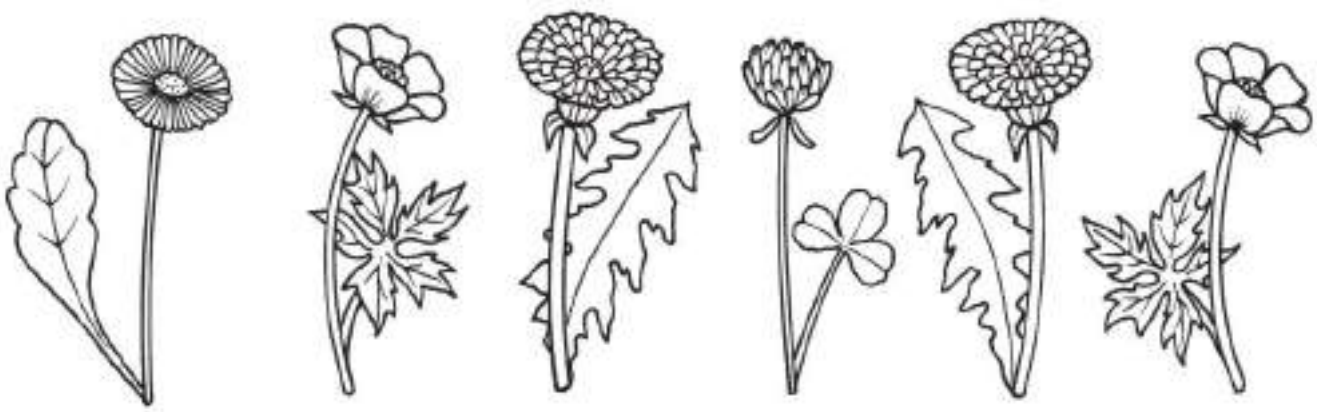
cam an ime

Cé mhéad a? **Cé mhéad m?** **Cé mhéad e?**

Dathaigh ceithre cinn de na bláthanna.



Cuir ciorcal timpeall ar gach aon cham an ime.



Líon isteach na litreacha atá ar iarraidh.

c a m a n i m e

c _ m a _ i _ e

Faigh cam an ime agus beir leat ar scoil é.

Cé mhéad peiteal? ☐

Greamaigh cam an ime anseo.

Críochnaigh an léaráid seo de cham an ime.

Scríobh 'an tseamair bhán'.

an tseamair bhán

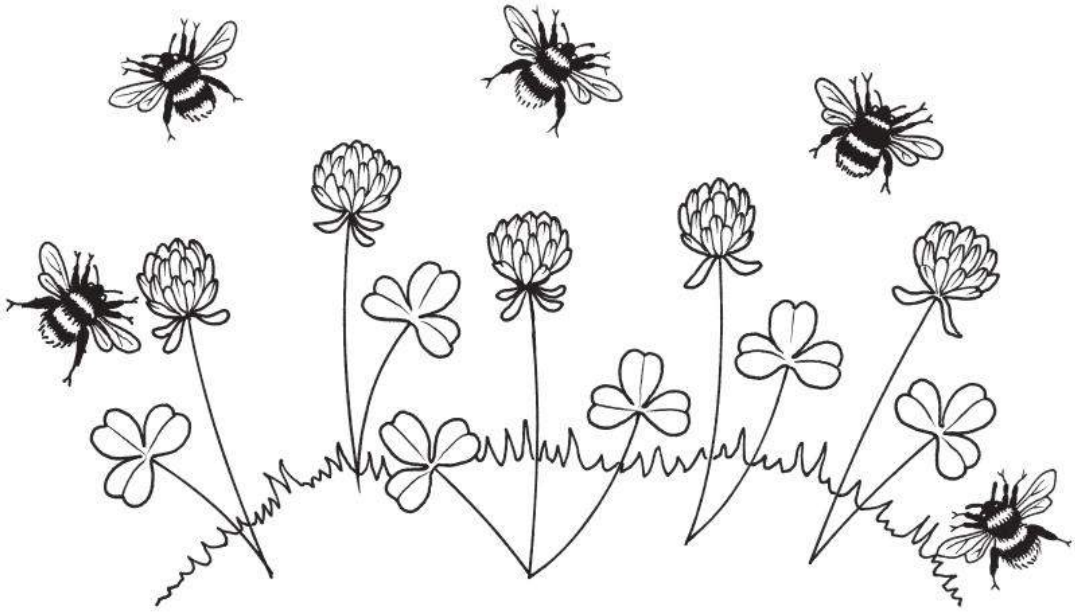
1. Cé mhéad litir atá i 'bhán'?

2. Cé mhéad litir atá i 'tseamair'?

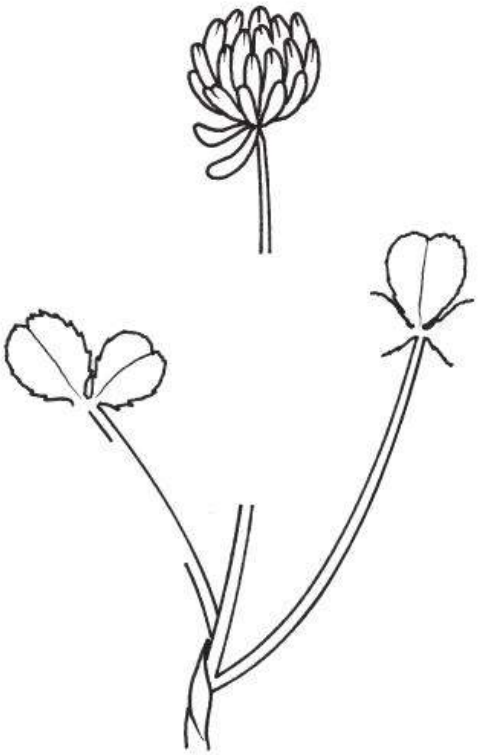
3. Cé mhéad litir atá san ainm iomlán?

1. **2.** **3.**

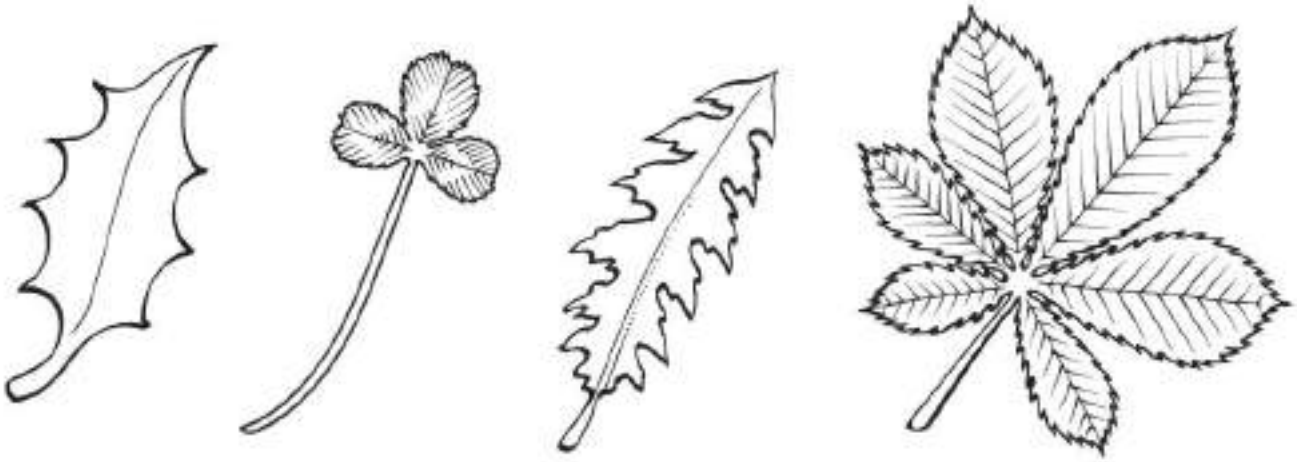
Treoraigh na beacha chuig an tseamair.



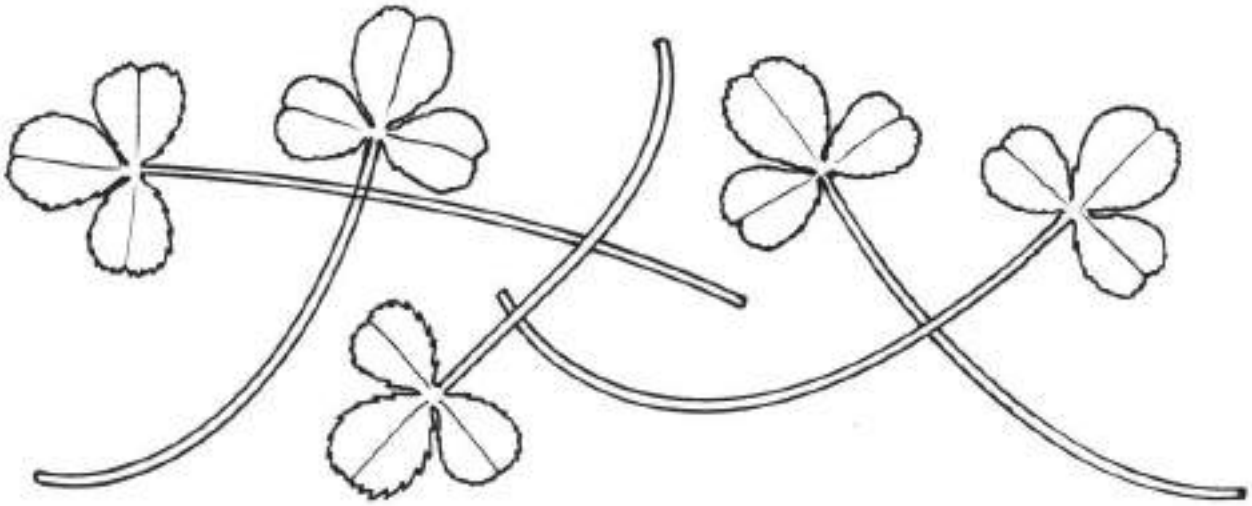
Críochnaigh léaráid na seimre.



Ciorclaigh duilleog na seimre.



Comhair duillíní na seimre.



Aimsigh bláth seimre a bhfuil duilleog air agus greamaigh den leathanach é.

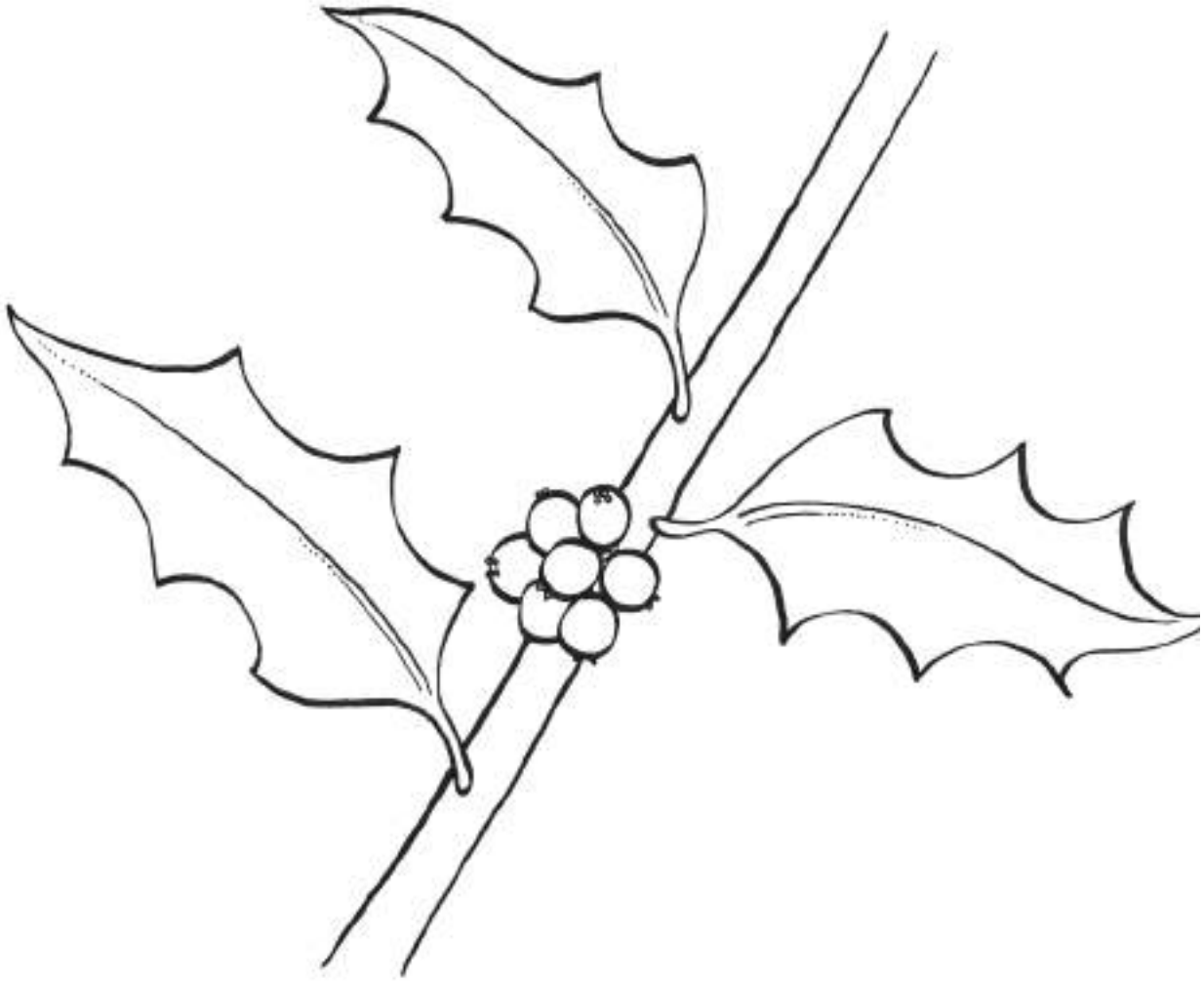
Scríobh an focal 'cuileann'.

cuileann

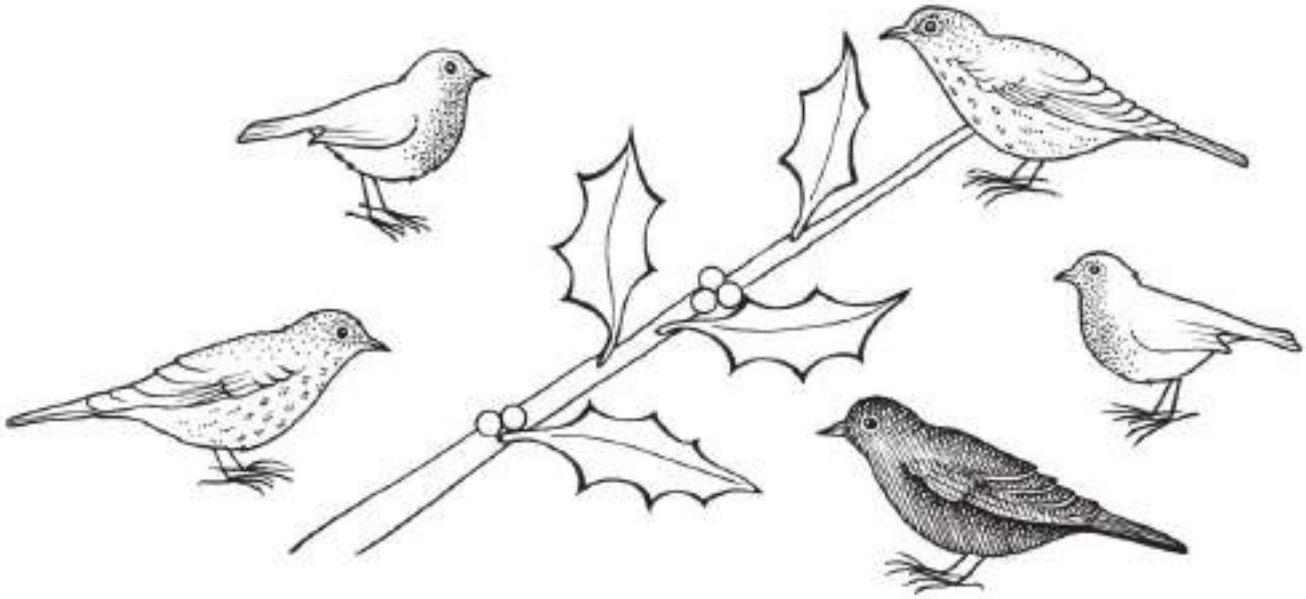
Cé mhéad caor chuilinn atá anseo?

Cé mhéad caor chuilinn atá anseo?

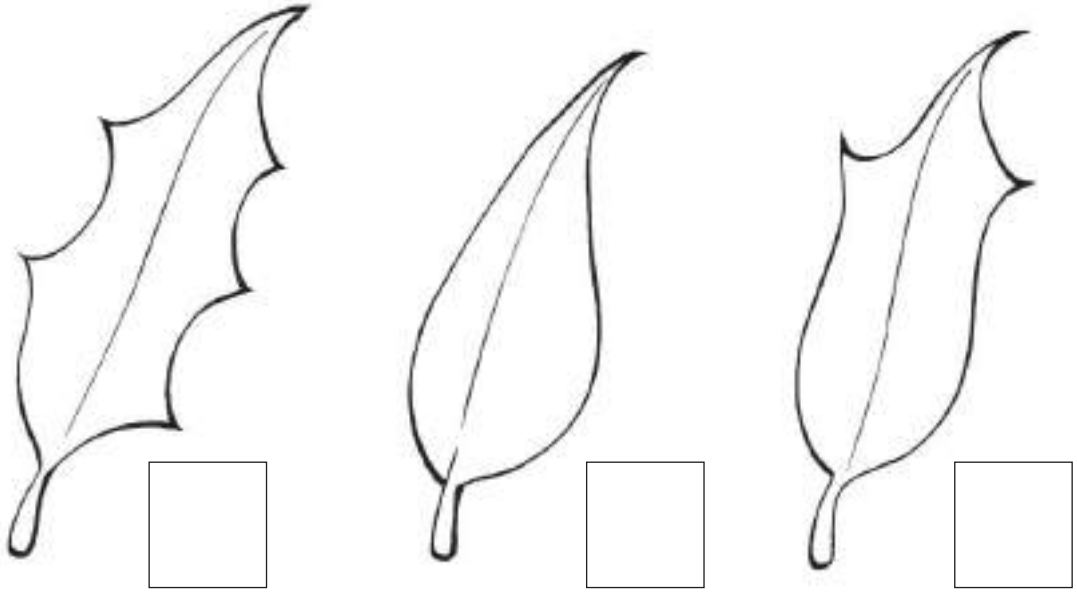
Dathaigh craobhóg an chuilinn agus a chaora.



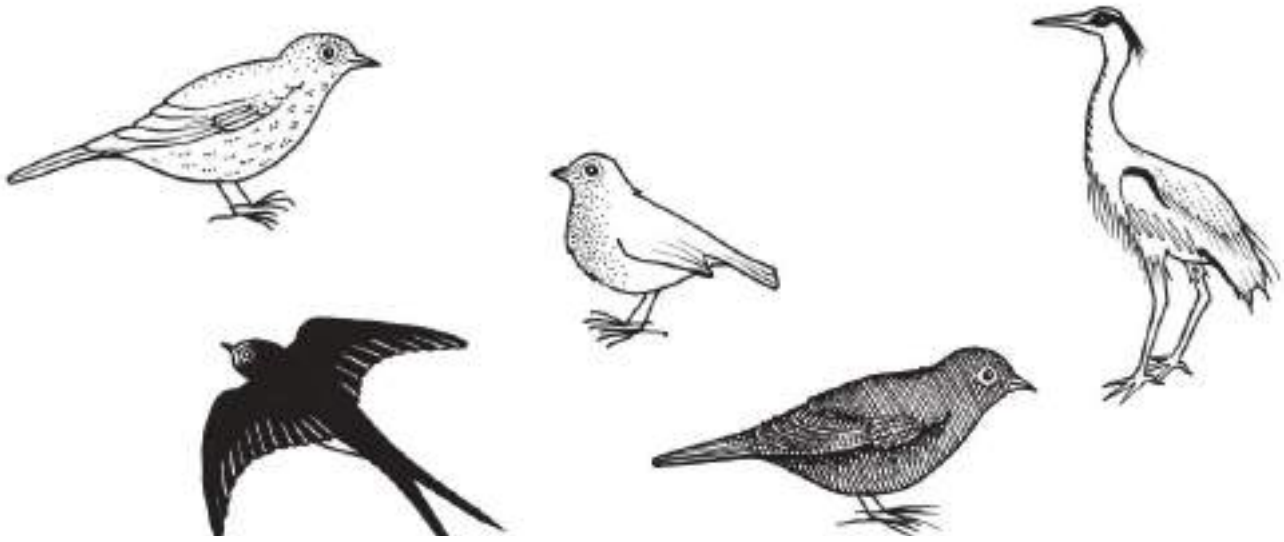
Treoraigh na héin chuig na caora.



Comhair na codanna deilgneacha ar dhuilleoga an chuilinn.

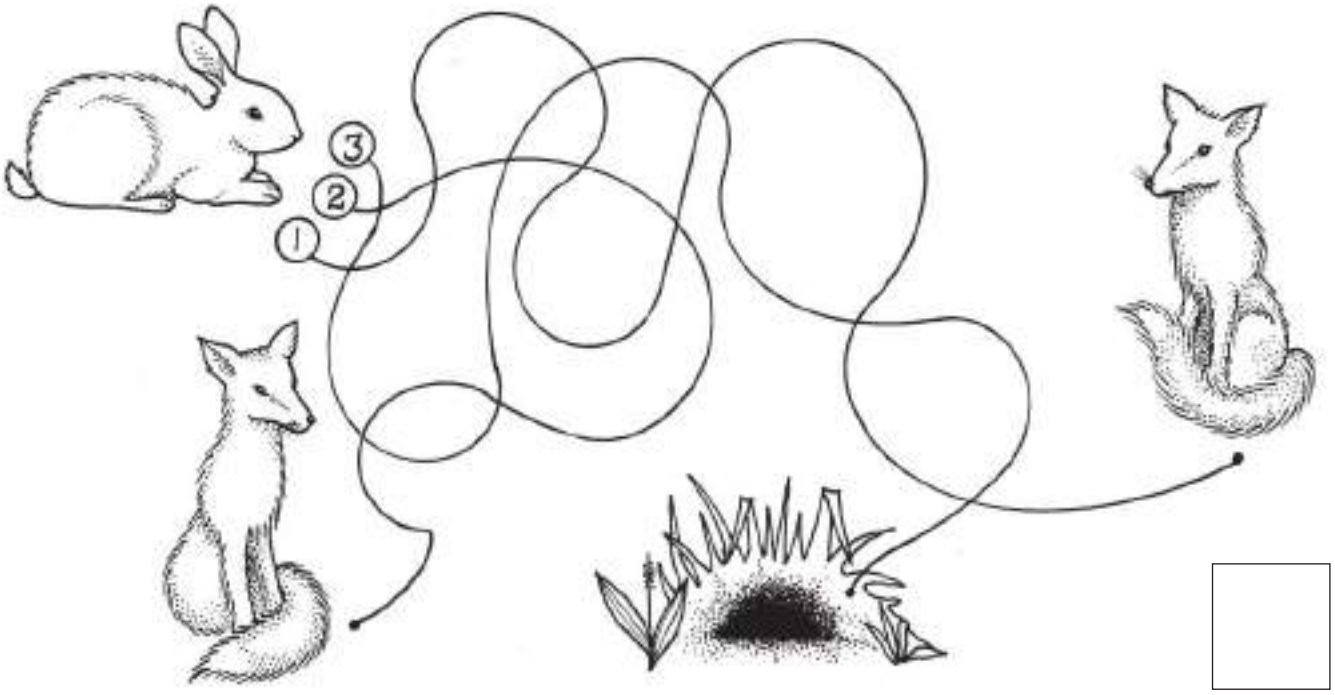


Ciorclaigh na h-éin nach n-itheann caora.

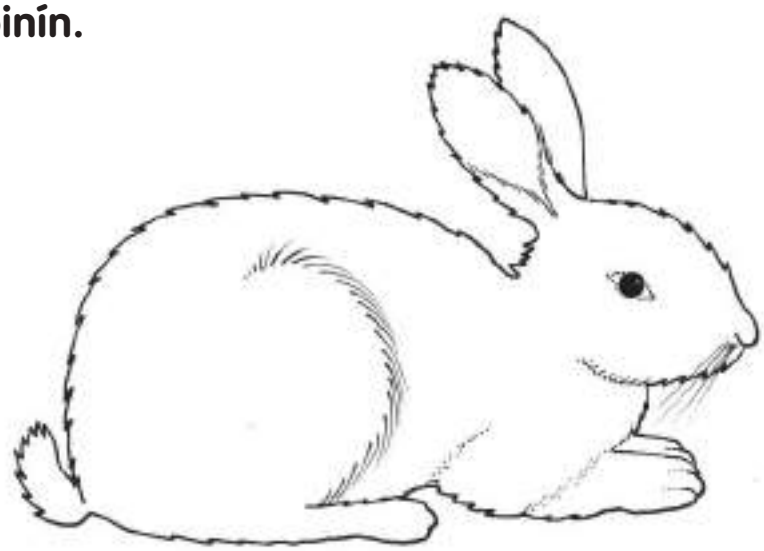


Treoraigh an coinín go dtí an baile s'aige trí líne a tharraingt.

Cén tsreang a rachaidh ón gcoinín go dtí an baile s'aige?
Cuir an uimhir sa bhosca.



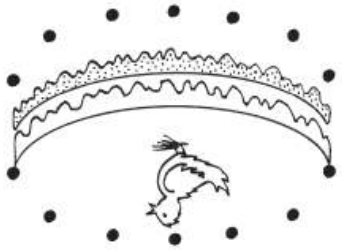
Dathaigh an coinín.

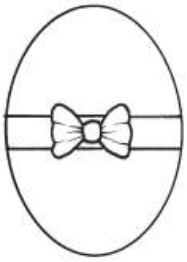


Déan cárta Cásca. 'Cáisc Shona' os cionn an choinín. Ceangail na poncanna chun léaráid chiste na Cásca a chríochnú. Dathaigh an cárta agus fill é.

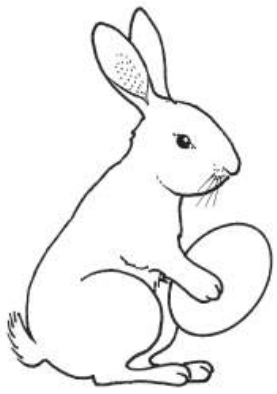
ó

Do





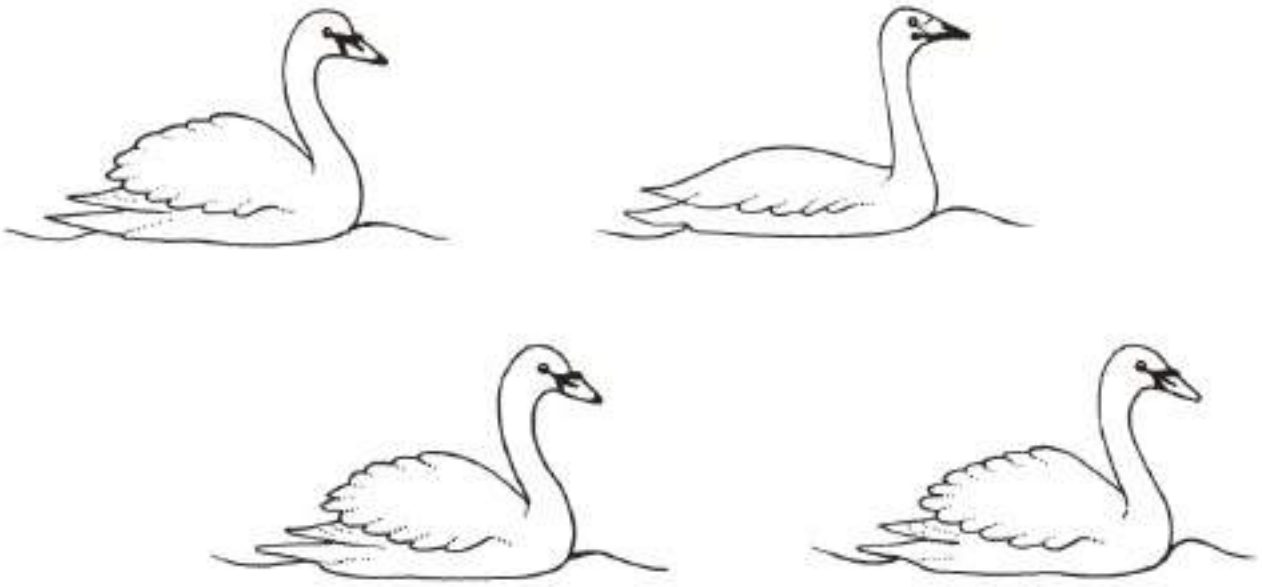
Cáisc Shona



Scríobh an focal 'eala'.

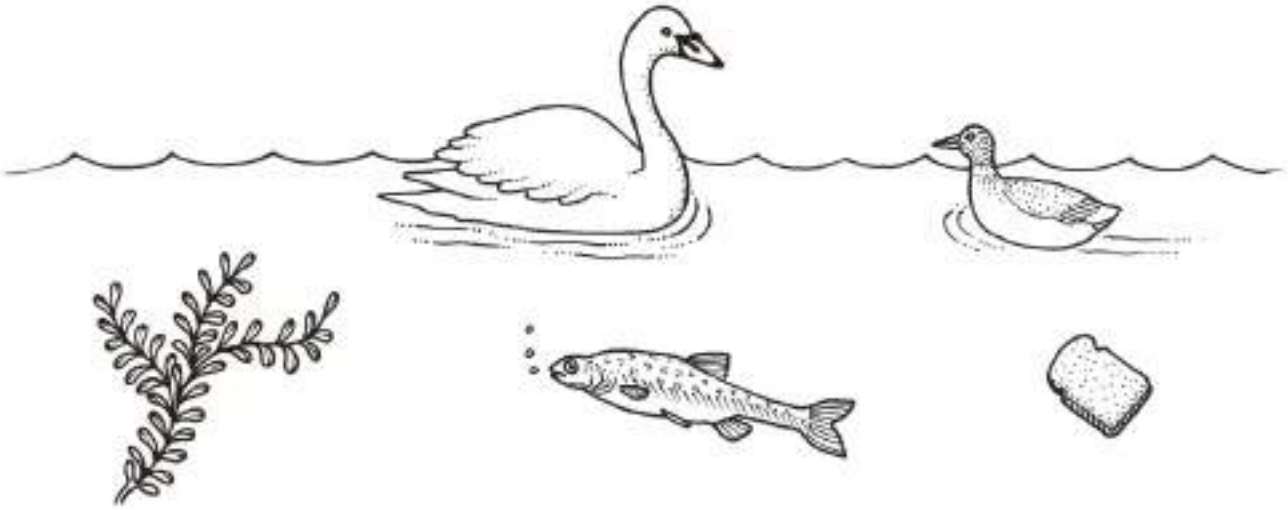
e a l a e a l a

Ciorclaigh an eala chorr.



Críochnaigh léaráid na heala agus ansin dathaigh isteach í.

Tarraing líne ón eala go dtí a cuid bia.

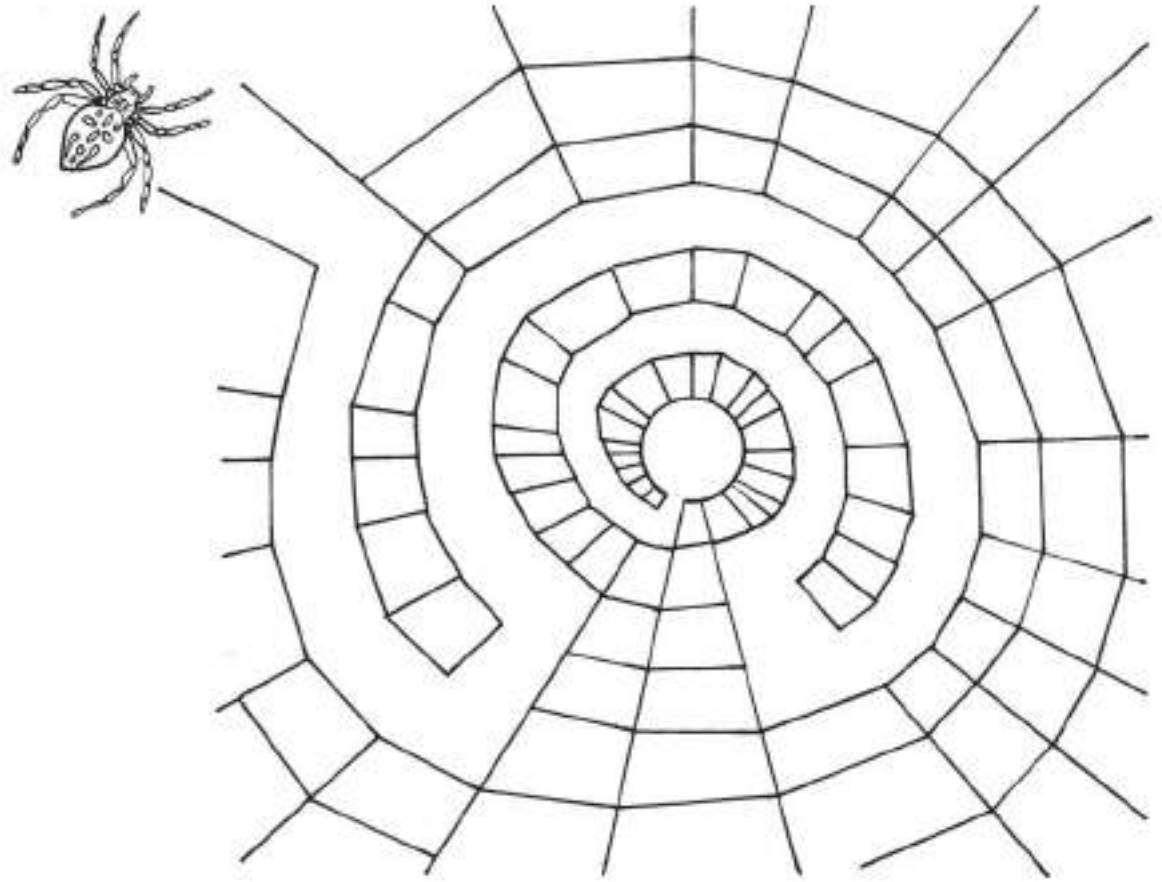


Gearr amach na healaí seo agus greamaigh den phictiúr thuas iad.

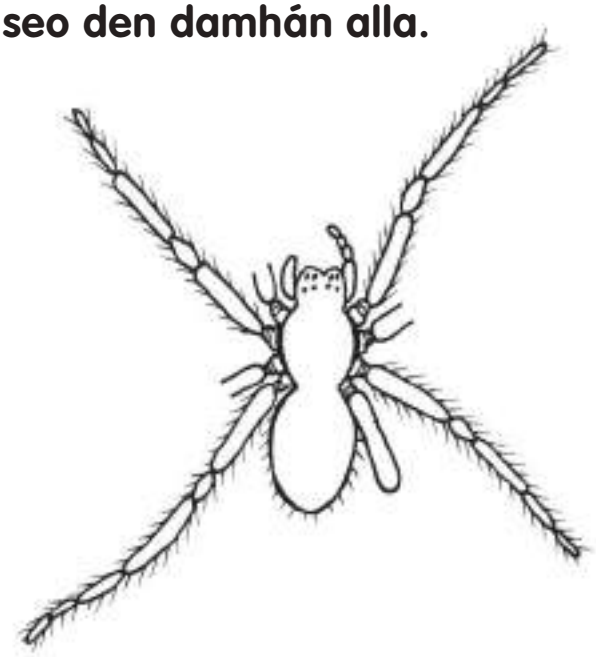
Scríobh an focal 'damhán alla'.

damhán alla

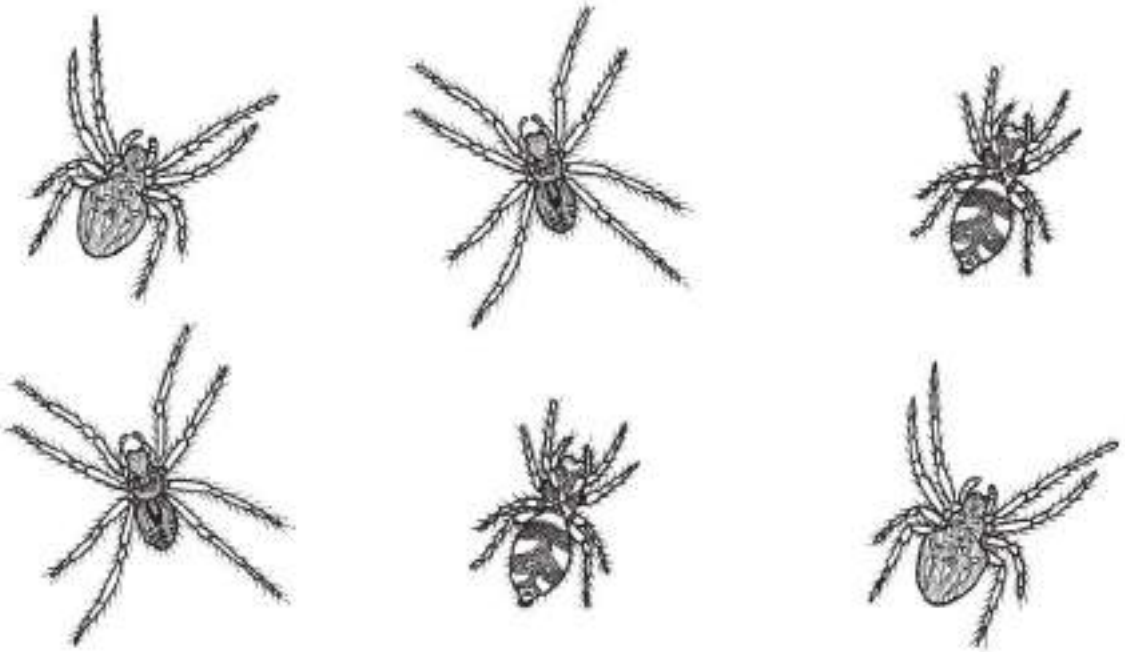
Cabhraigh leis an damhán alla chun a bhealach a dhéanamh abhaile.



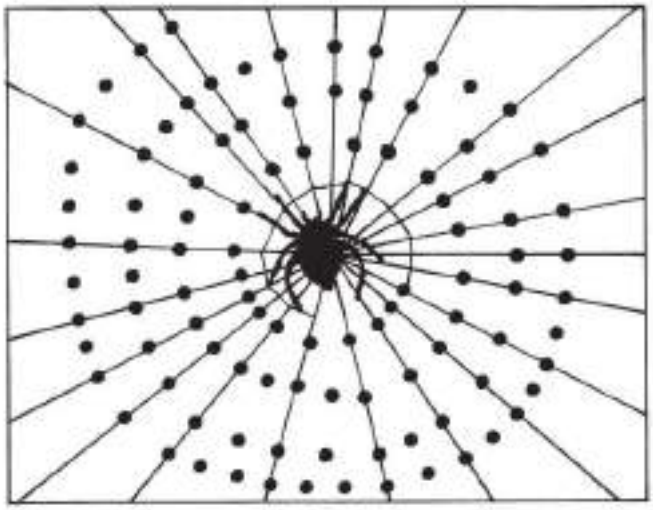
Críochnaigh an léaráid seo den damhán alla.



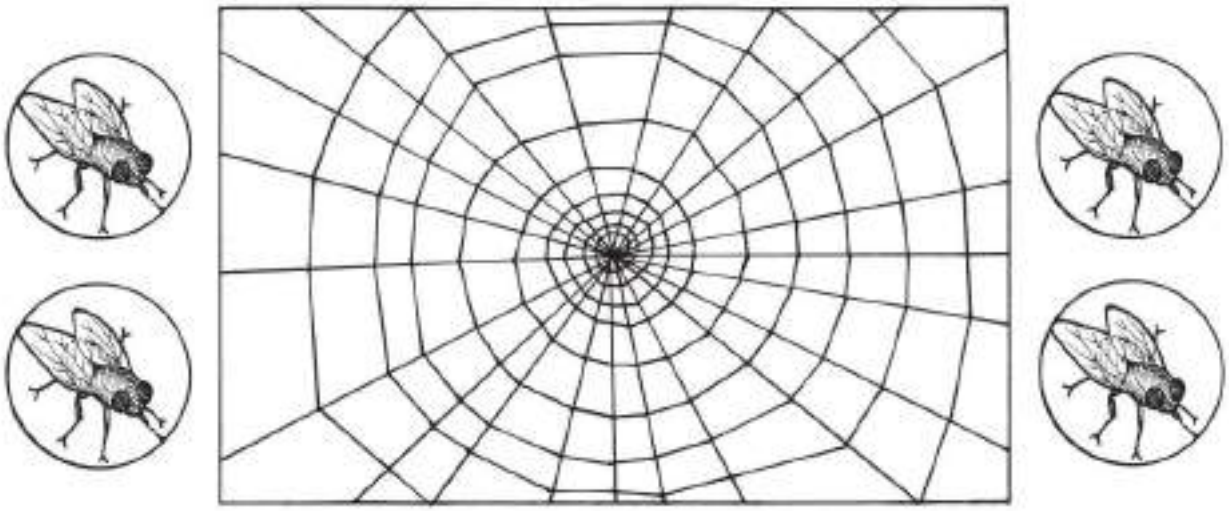
Déan na damháin alla seo a mheaitseáil trí líne a tharraingt idir na cinn atá mar an gcéanna.



Cabhraigh leis an damhán alla críoch a chur lena shnáth trí na poncanna a cheangal.



Gearr amach na cuileoga agus greamaigh den snáth iad.



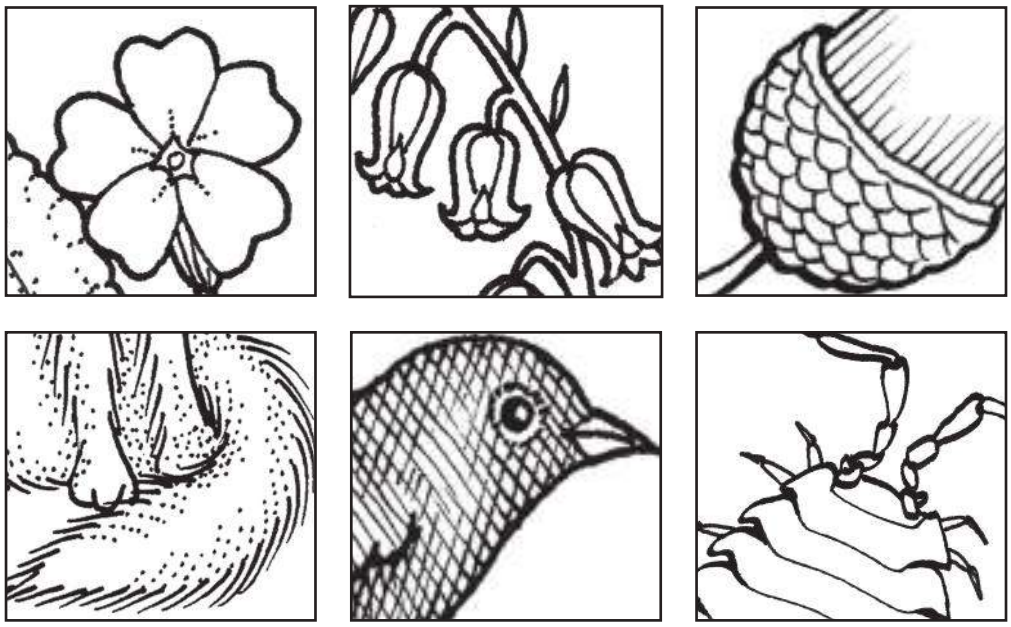
Introduction to 1st Class Worksheets

An Sabhaircín	**Primrose**
Cloigín gorm	**Bluebell**
Dair	**Oak**
Madra rua	**Fox**
Lon dubh	**Blackbird**
Cláirseach	**Woodlouse**

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly. Return any animals collected to the wild. It is not necessary for the worksheets to be done in the order in which they are given.

There is also an emphasis on food chains and how animals live in the wild so that completing the worksheets adds to the children's knowledge. Plants and animals they have learned in the infant classes may appear again so that the knowledge they had is revised and built upon. The worksheets are designed to be photocopied and handed out to the pupils.



1st Class Teacher Notes

Primrose 1

Worksheet in three sections

Writing practice:
Pupils practise writing the word **primrose**

Classification:
Pupils identify the primroses from a group of flowers. They should be able to name the rest as they have learned them while in Infants.

Making words:
How many words can they make from the letters **primrose**?

Primrose 2

Worksheet in two sections
(Do this when primroses are in flower)

Fieldwork outdoors and manual dexterity:
Pupils find primroses growing outside in a hedge. Each child collects one flower and one leaf and sticks it into the space provided. (Sellotape can be used here).

Accurate drawing:
Pupils should be encouraged to do an accurate drawing of a primrose and a leaf with the correct number of petals.

Bluebell 1

Worksheet in four sections

Writing practice:
Pupils practise writing the word **bluebell**

Fieldwork outdoors and manual dexterity:
Pupils find bluebells growing outside in the hedge. Each child collects one flower and one leaf and sticks it into the space provided. (Sellotape can be used here).

Accurate drawing:
Pupils should be encouraged to do an accurate drawing of a bluebell and a leaf. The drawing has been started for them – they can colour it in with the correct colours.

Test of observational skills:
Where do bluebells grow? They can pick more than one answer from the word bank

Bluebell 2

Worksheet in two sections

Classification and revision:
Matching the flower to the leaf – primrose and bluebell from this year and clover from last year.

Art and manual dexterity:
Pupils make a picture that can be stuck on to a Spring greeting card. The bluebells are coloured and cut out. Then they are stuck into the slot on the plant pot and all are coloured in to form part of a greeting card.

Oak 1

Worksheet in two sections

Classification and recognition:
Pupils fill in the names of the parts of the tree in the boxes provided. They choose from a selection of words in the word bank.

Classification and revision:
Pupils match the seeds to the leaves – they can name them too.

Oak 2

Worksheet in two sections

Learning about food chains:
With a pencil line, the pupils join the acorn to whatever eats it – (squirrel, rook and mouse)

Word recognition:
Word search – pupils find all the words that are listed in the word bank. They are either horizontal or vertical in the word search.

Fox 1

Worksheet in three sections

Drawing and colouring skills:
Pupils join up the dots to complete the fox and then colour it in carefully

Logic skills:
Pupils find the way through the maze for the fox to reach his den.

Writing and learning:
A fox lives in a _____ Don't tell them the word – it was written for them in the maze exercise.

Fox 2

Worksheet in two sections

Ecological knowledge:
A fox food chain – pupils have to join the dots in each picture to find out that a fox eats apples, chickens, rabbits and mice.

Applying knowledge:
Pupils then apply this knowledge to filling in the food chains. There are three levels in each, with the fox in the highest level in each case. The words they need are in the word bank provided.

Blackbird 1

Worksheet in two sections

Writing practice:
Pupils practise writing the word **blackbird**

Observational skills:
Pupils have to look closely at the picture to detect the hidden blackbirds. They can colour them in as they find them.

Blackbird 2

Worksheet in two sections

Demonstration of knowledge of a blackbird's life cycle:
Pupils do this by putting the pictures in the right order – blackbird singing to attract a mate, building a nest, eggs in nest, eggs hatching, big birds in nest and, finally all three blackbirds in flight. They should number the pictures in the right order.

Word search:
The word search is all based on things blackbirds eat. The words are either horizontal or vertical and are all given in the word bank.

Woodlouse 1

Worksheet in three sections

Writing practice:
Pupils practise writing the word woodlouse

Observation and counting:
Pupils observe the picture provided and write the numbers of legs (14), antennae (2) and tails (4) in the boxes provided.

Writing and knowledge of a how a woodlouse lives:
The words needed for the answers are given in the word bank.

Woodlouse 2

Worksheet in three sections

Field work:
Pupils go outside and find woodlice. These live in the woodpile, in dead leaf litter, under flower pots, under big stones, etc. Use a "bug" viewer with a magnifying lid to see the creatures better.

Drawing:
On return to class, pupils can complete the drawing and colour in the woodlouse correctly.

Food chain:
The animals that eat woodlice are drawn and their names are in the word bank.

Scríobh an focal ‘sabhaircín’.

sabhaircín _____

Aimsigh na sabhaircíní.

Ainmnigh na bláthanna eile.

sabhaircín	**caisearbhán**	**nóinín**
seamair	**cam an ime**	

Cé mhéad focal is féidir leat a dhéanamh as an bhfocal sabhaircín?

_____ _____ _____

_____ _____ _____

_____ _____ _____

Aimsigh sabhaircín agus duilleog dá chuid agus greamaigh den leathanach iad.

bláth

duilleog

Tarraing sabhaircín agus a dhuilleog agus dathaigh iad.

bláth

duilleog

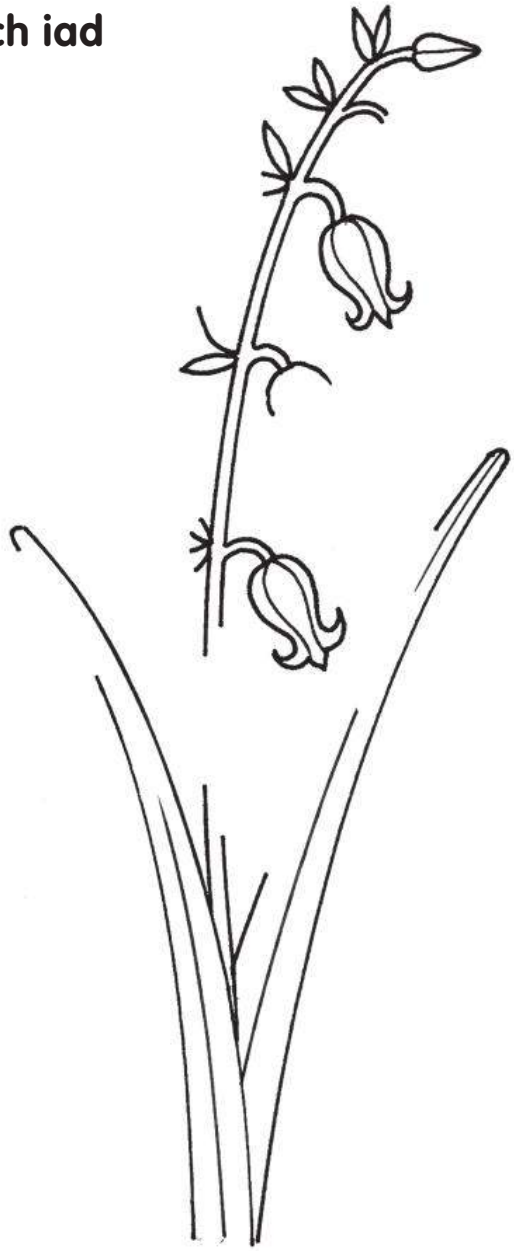
Scríobh an focal 'cloigín gorm'.

Cloigín gorm _____

Téigh amach agus aimsigh cloigín gorm agus duilleog dá chuid agus greamaigh den leathanach iad

bláth

duilleog

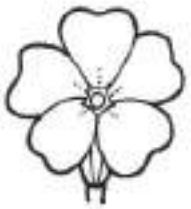


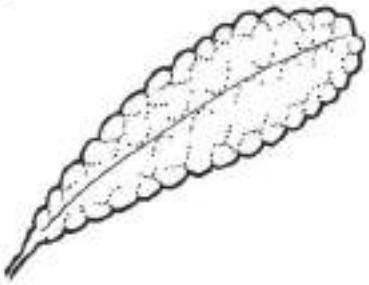
Críochnaigh an léaráid agus dathaigh í.

Is sa _____ a fuarthas mo chloigín gorm.

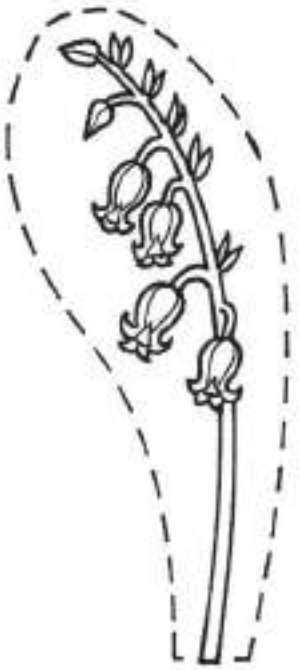
loch	**pháirc phoiblí**	**ghairdín**	**choill**

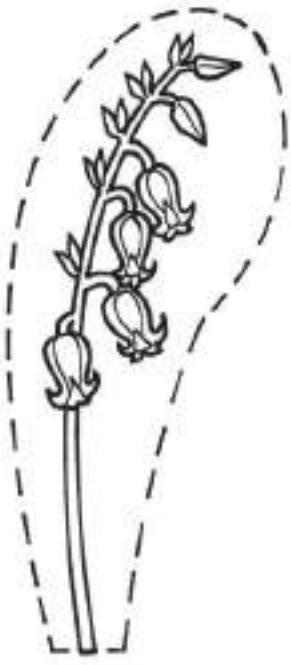
Déan an bláth a mheaitseáil leis an duilleog.

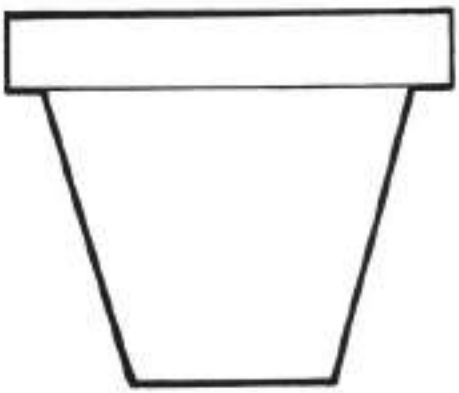




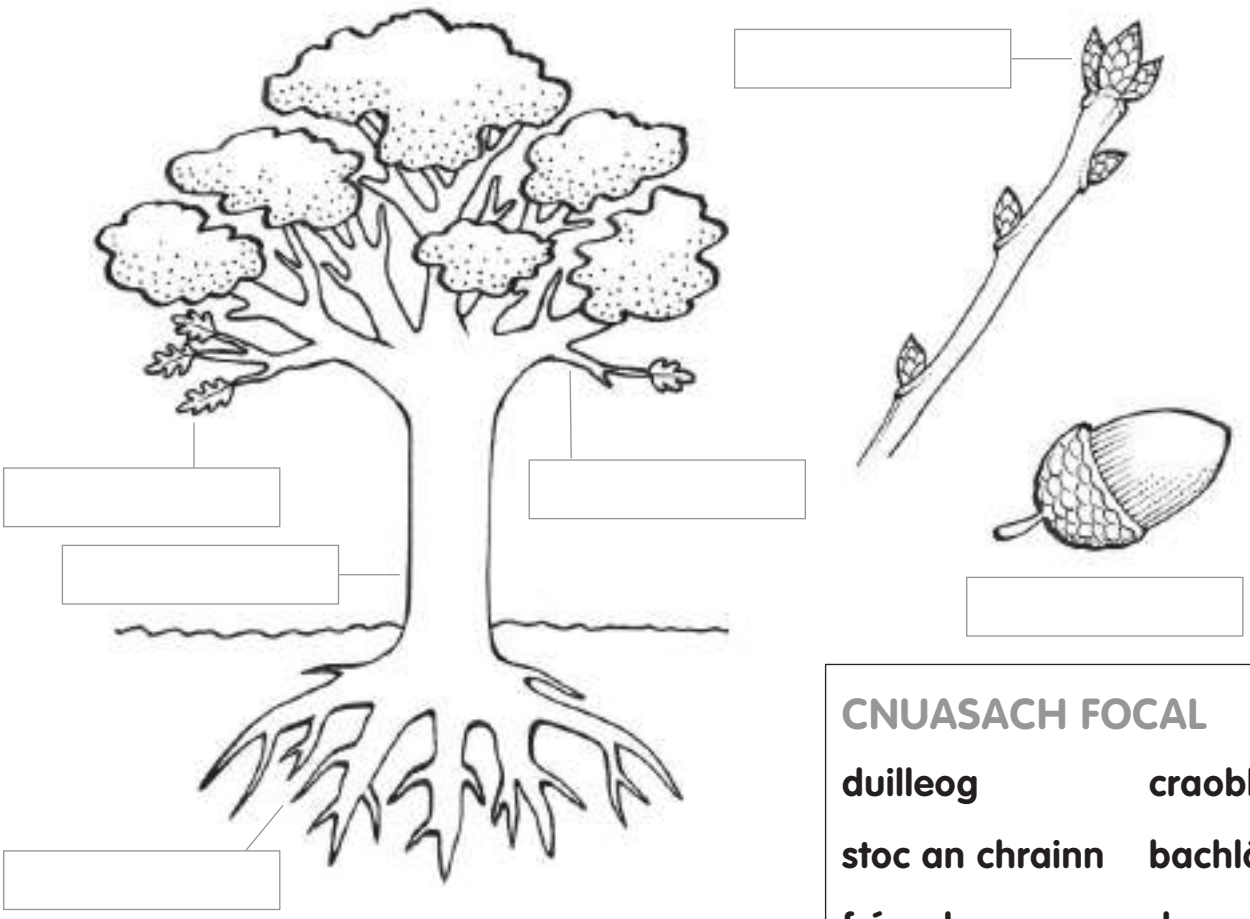
Dathaigh agus gearr amach na bláthanna agus an pota bláthanna. Bain feidhm astu chun do chárta earraigh féin a dhéanamh.







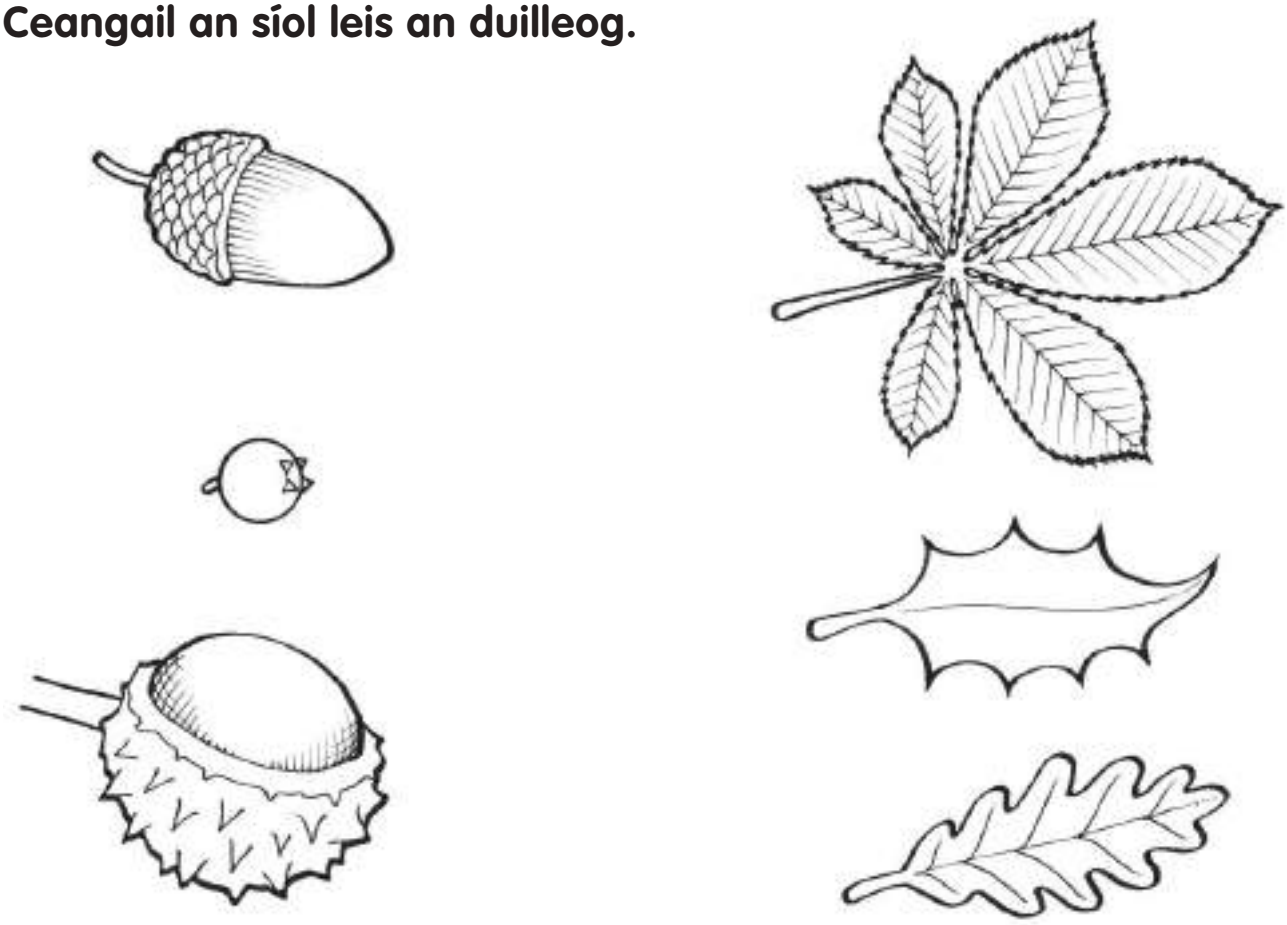
Ainmnigh codanna an chrainn.



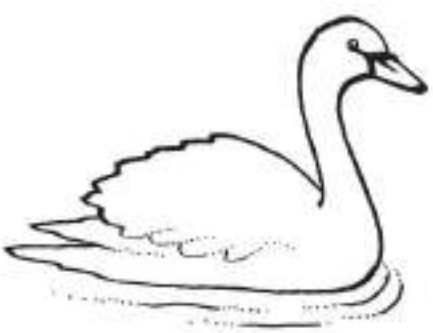
CNUASACH FOCAL

duilleog	craobh
stoc an chrainn	bachlóg
fréamh	dearcán

Ceangail an síol leis an duilleog.



Cé acu a mbíonn dearcáin mar bhia acu?



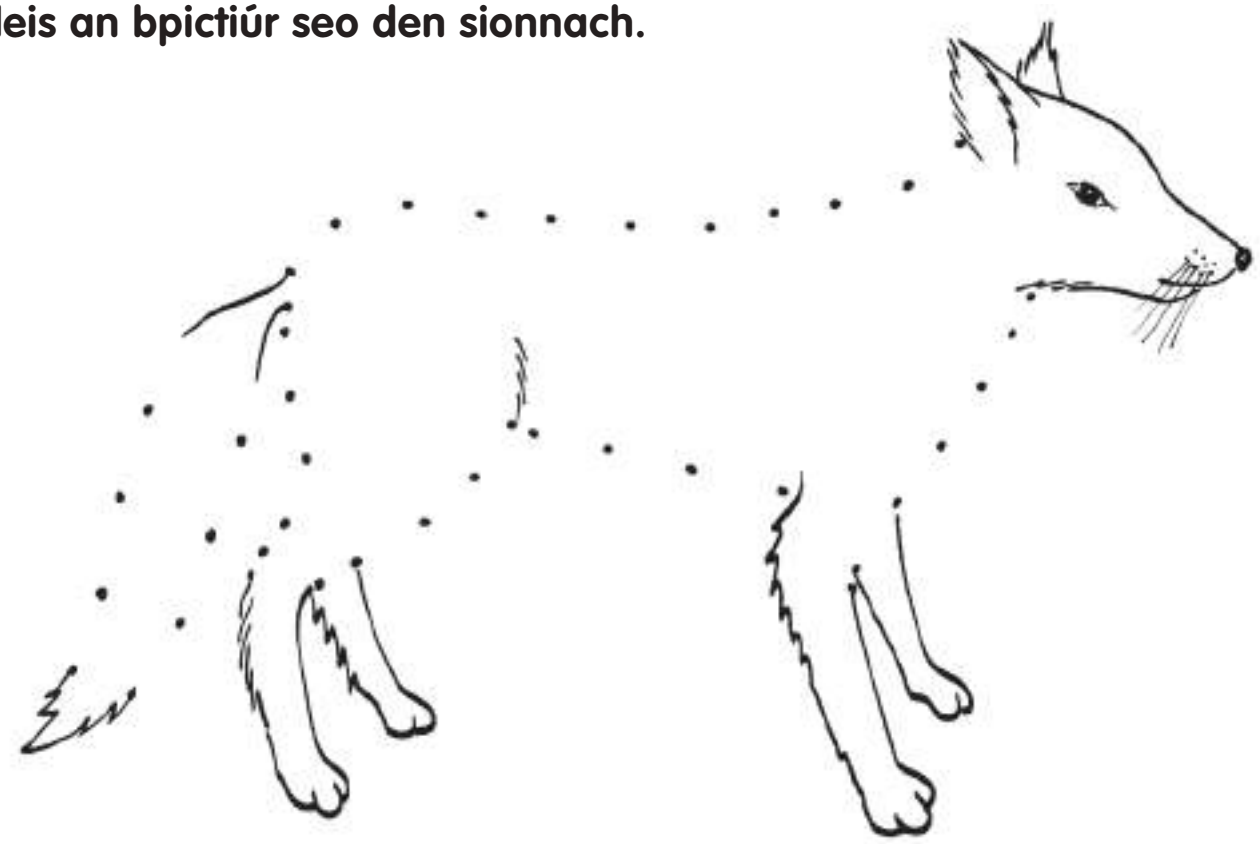
Lúbra focal

l	r	a	r	c	r	a	o	b	h	d
d	u	i	l	l	e	o	g	a	c	l
b	a	c	h	l	ó	g	a	c	i	n
f	r	é	a	m	h	c	a	n	r	b
s	t	o	c	c	r	a	n	n	r	c
d	e	a	r	c	á	n	d	a	i	r

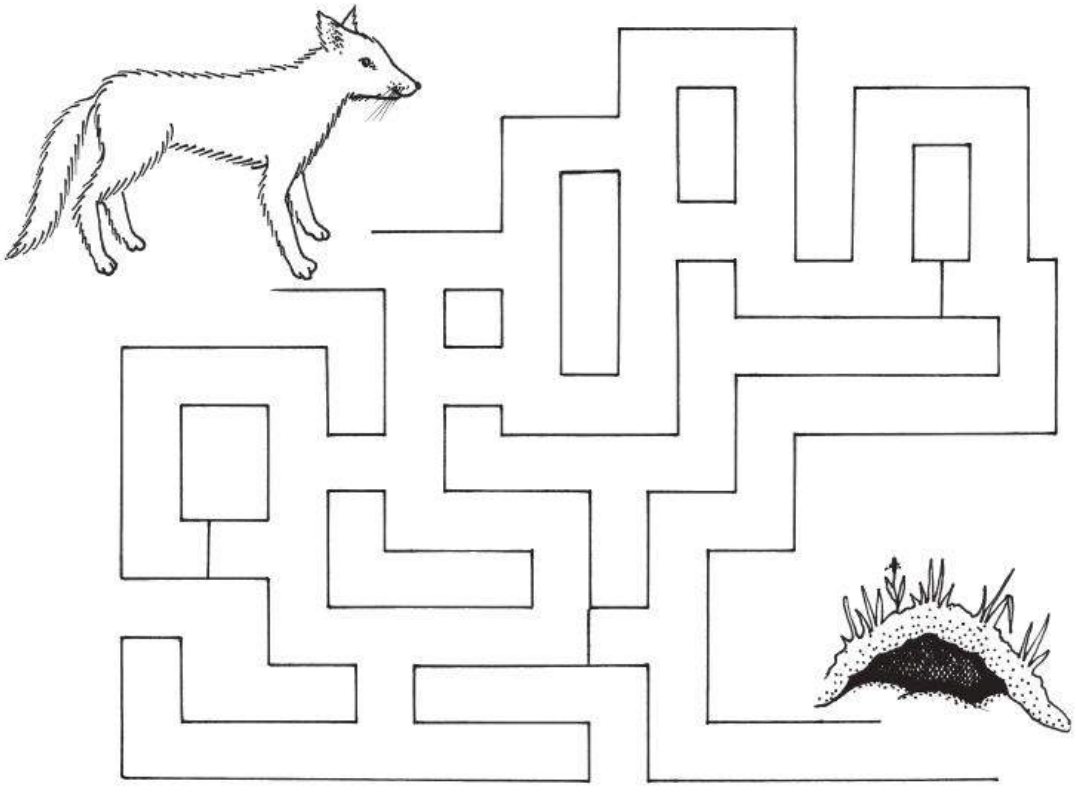
CNUASACH FOCAL

dair	dearcán
craobh	fréamh
crann	bachlóg
duilleog	stoc

Ceangail na poncanna chun críoch a chur leis an bpictiúr seo den sionnach.



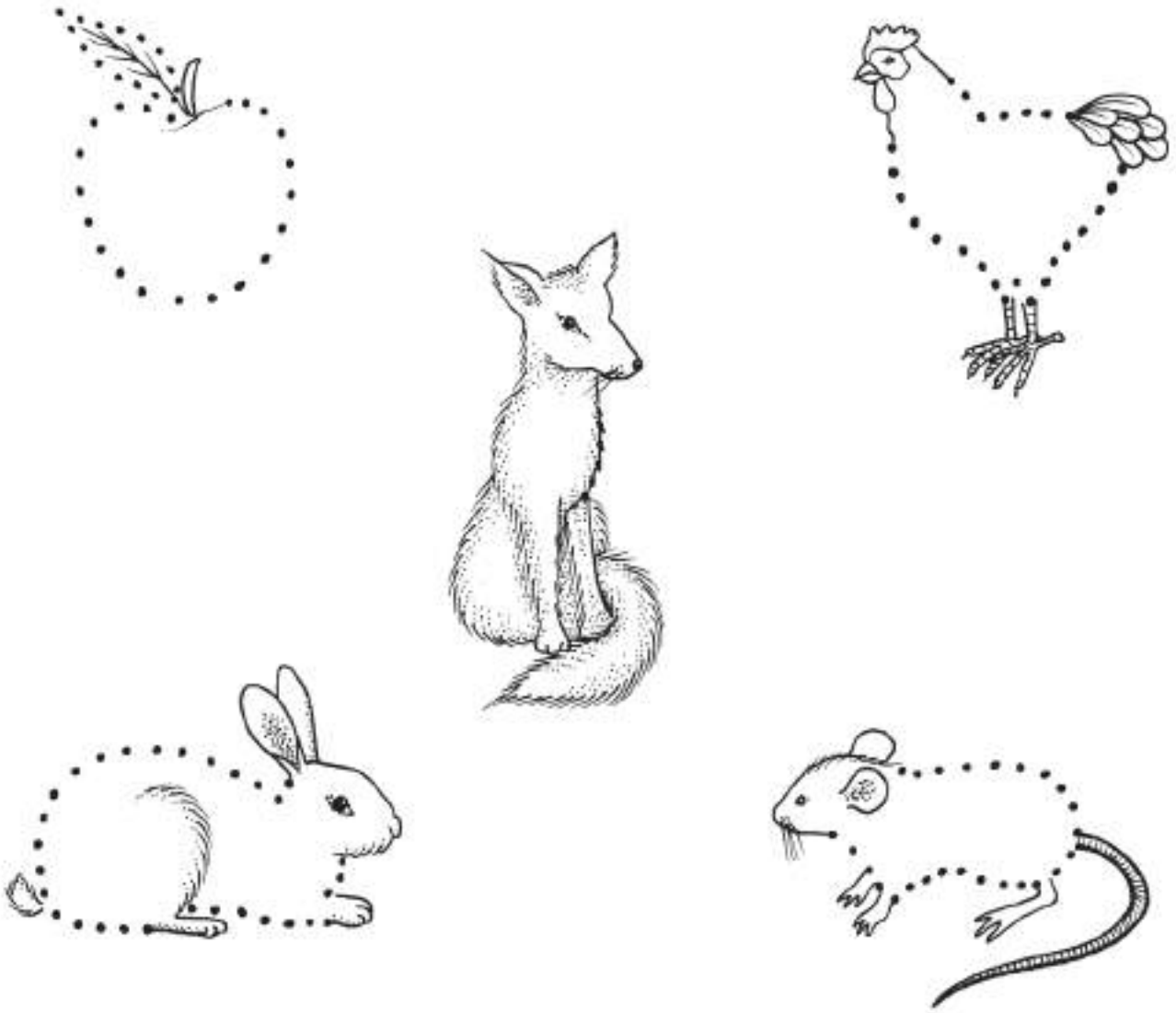
Treoraigh an sionnach chuig a phluais.



Líon isteach na bearna.

Cónaíonn sionnach i _____ .

Na nithe a bhíonn mar bhia ag an sionnach.



Líon isteach na slabhraí bia.

féar	coinín	
	luchóg	sionnach
	sicín	

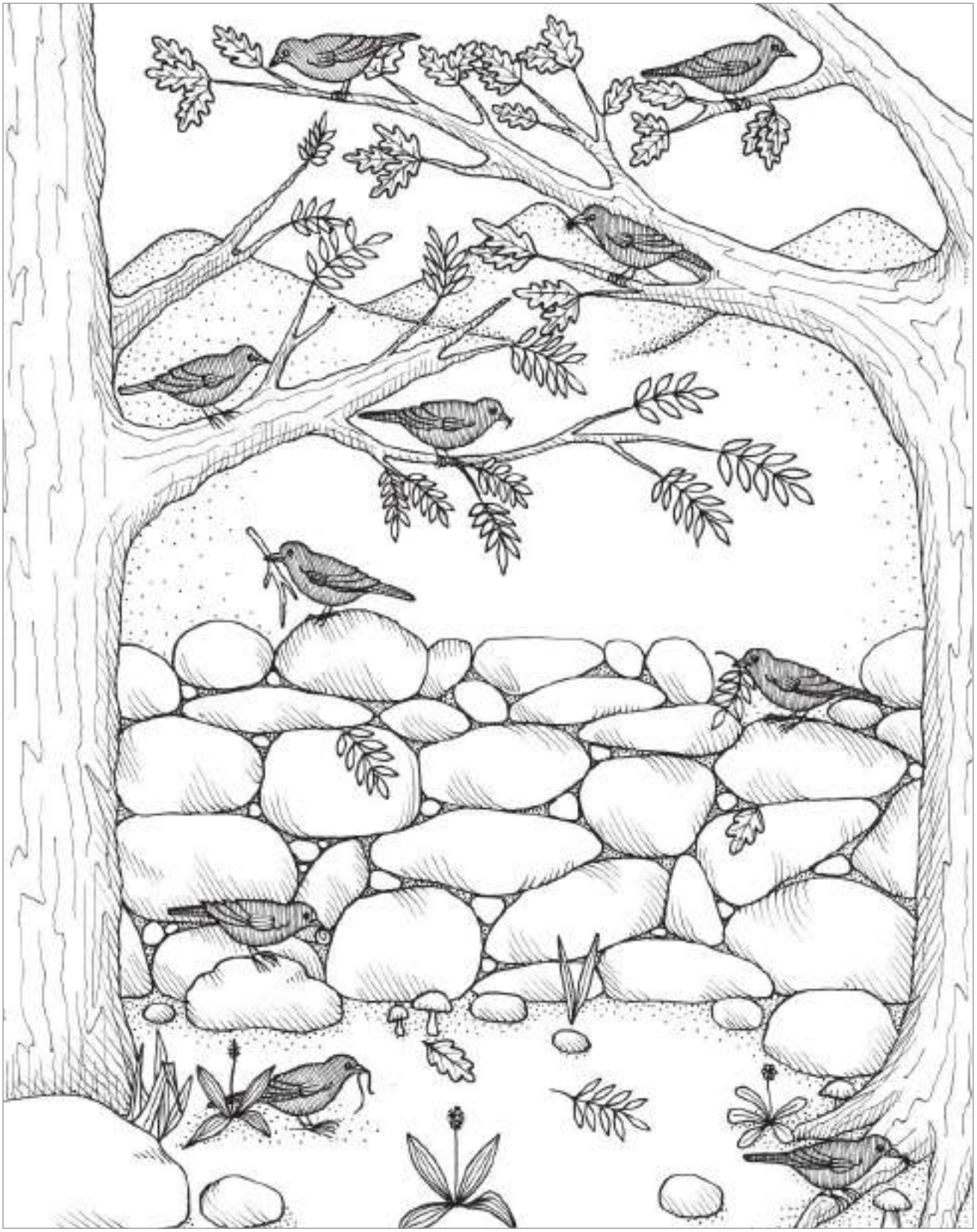
CNUASACH FOCAL

luchóg sicín coinín sionnach dearcán gráinne

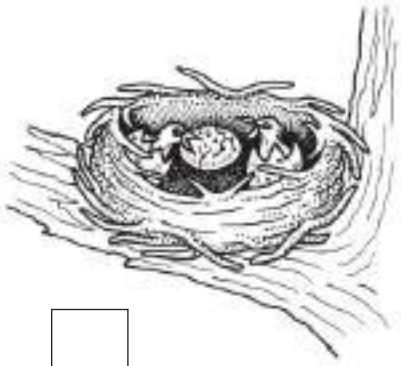
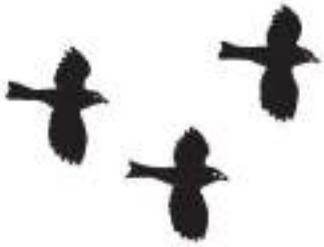
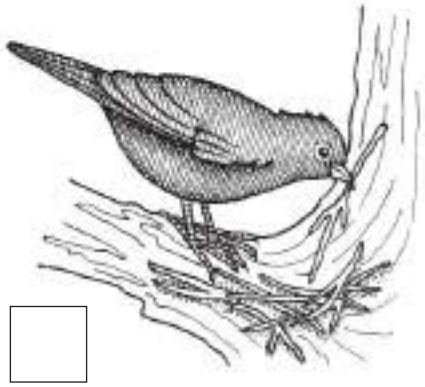
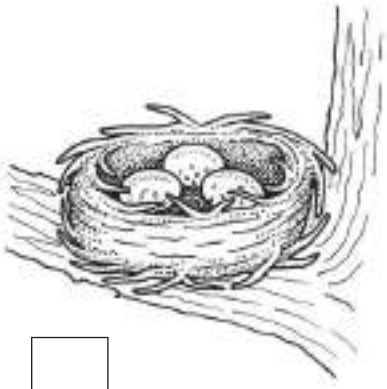
Scríobh an focal 'lon dubh'.

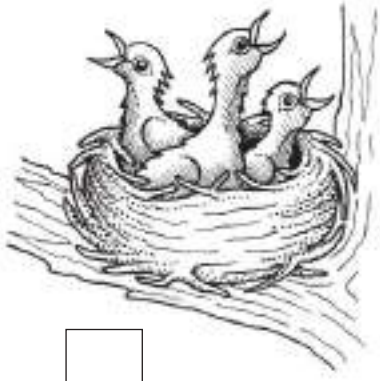
lon dubh _____

Cé mhéad lon dubh is féidir leat a aimsiú sa phictiúr?



Cuir na pictiúir san ord ceart trí na huimhreacha a chur sna boscaí 1-6.



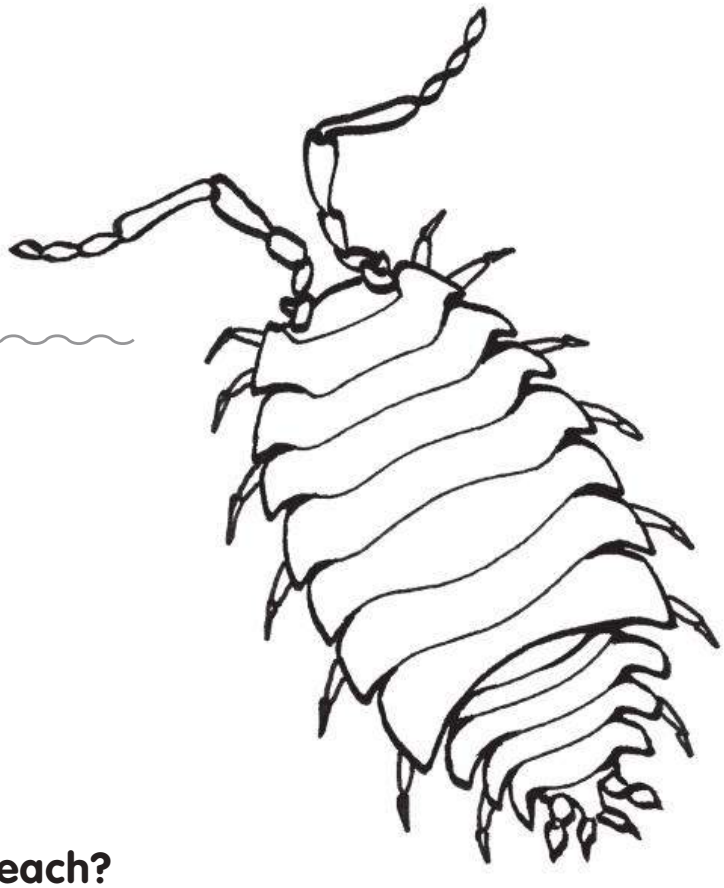
Cuardach Focal. Cad é an bia a itheann an lon dubh?

d	a	m	h	á	n	a	l	l	a
p	é	i	s	t	t	a	l	ú	n
e	d	r	ú	c	h	t	í	n	l
ú	l	l	s	e	i	l	i	d	e
s	í	o	l	c	a	o	r	d	á

CNUASACH FOCAL

síol
damhán alla
seilide
caor
drúchtín
péist talún
úll

cláirseach



Cé mhéad cos ☐

eireaball ☐

aeróg ☐

atá ag cláirseach?

Líon isteach na bearnaí.

Cónaíonn an cláirseach faoi bhun _____ agus _____.

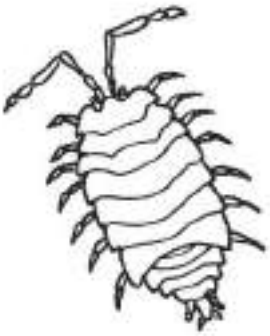
Itheann an cláirseach _____ marbha agus _____.

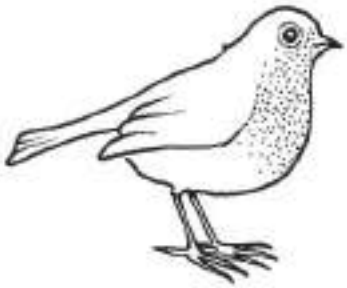
CNUASACH FOCAL			
plandaí	**clocha**	**potaí do bhláthanna**	**adhmad**

Téigh amach agus aimsigh cláirseach.

Críochnaigh an pictiúr.

Ainmnigh na hainmhithe a mbíonn an cláirseach mar bhia acu.





CNUASACH FOCAL			
lon dubh	damhán alla	gráinneog	spideog

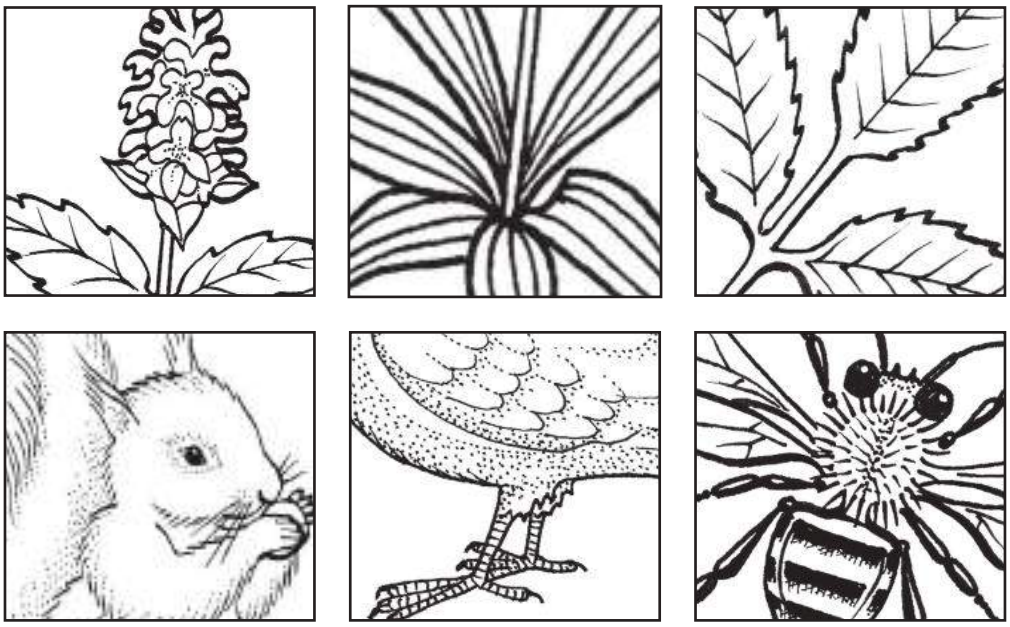
Introduction to 2nd Class Worksheets

Duán Ceannchosach	**Self-heal**
Slánlus	**Ribwort**
Fuinseog	**Ash**
Iora rua, Iora glas	**Squirrel**
Colm coille	**Pigeon**
Beach mheala, Bumbóg	**Bee**

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly. Return any animals collected to the wild. The worksheets need not necessarily be done in the order in which they are given.

There is also emphasis on food chains and how animals live in the wild, so that completing the worksheets adds to the children's knowledge. By second class, the pupils will have already learned about a considerable number of plants and animals so these work sheets refer to species learned about earlier and act as a form of revision. The worksheets are designed to be photocopied and handed out to the pupils.



2nd Class Teacher Notes

Self-heal 1

Worksheet in two sections

Introduction to plant:
Pupils colour in the self-heal plant and leaves. Show the pictures of the plant to the pupils first so that they know what colour it is.

Making words:
How many words can the pupils make from the letters self heal?

Self-heal 2

Fieldtrip (Do this when self-heal is in flower)

Fieldwork outdoors and manual dexterity:
This is an official fieldtrip to carry out an experiment. Pupils read all the instructions indoors first. They then collect the equipment needed, go outdoors and follow the instructions. They count the different species in the study area and enter the results in the table. Then they decide which species is the most common.

The quadrant should be in an area of the school grounds – i.e. lawn or playing field – where self-heal grows. Teacher should check this out first.

Research:
Why is it called self-heal? Teacher should discuss this with class and get suggestions from them.

Ribwort 1

Worksheet in three sections

Absorbing information provided:
Pupils note what a ribwort looks like and where it grows.

Classification, identification and revision:
Pupils name the flowers in the drawing , colour each one in and write in the table where each one grows in the wild.

Ribwort 2

Fieldtrip

Recognising and finding ribwort:
Ribwort grows in lawns and school fields. Pupils collect a leaf and a flower of ribwort and stick the leaf on to the worksheet in class with sellotape.

Accurate description:
Pupils should give an accurate description – size, shape, parallel longitudinal veins.

Accurate drawing:
Pupils do an accurate drawing of the ribwort flower they have collected

Find out:
Why do they have no petals? They are wind-pollinated so they don't need to attract pollinators.

Ash Tree 1

Worksheet in two sections

Revision:
Pupils name the parts of the tree drawn – the answers are all in the word bank.

Tree life cycle:
Pupils match the months to the descriptions of what is happening to the tree.

Ash Tree 2

Fieldtrip

Fieldtrip:
Go on this fieldtrip in June or September when the leaves on the local ash tree are fully opened.

Counting leaflets:
Not all ash leaves have the same number of leaflets so see what variation there is in the leaves collected.

Accurate drawing and observation skills:
Pupils should be encouraged to do an accurate drawing of the leaf they have collected. On an ash bark, there could be moss, lichen and ivy.

Looking for creepy-crawlies:
Pupils shake the ash leaves into an upturned umbrella and see what falls in. Pooters to suck up delicate creatures can be used to transfer any insects into bug boxes for viewing.

Squirrel 1

Worksheet in two sections

Writing practice:
Pupils practise writing the words **red squirrel grey squirrel**

Observational skills:
Pupils should be able to detect 3 differences between red and grey squirrels from the black and white drawings. Colour is an extra difference.

Revision of knowledge about squirrels:
The answers to the questions are in the word bank

Squirrel 2

Worksheet in two sections

Ecological information:
Pupils fill out food chains – simple ones first, just the squirrel and his food and then, after seeing the drawing of the pine marten, the whole food chain.

Find out:
Where is the nearest place to the school that squirrels live.

Pigeon 1

Worksheet in two sections

Observation and comparison:
Pupils describe the differences in the drawing between the named parts of the wood pigeon and the feral pigeon. They then have to find out about their colour and their call.

Word search:
Two of the words are diagonal. The rest are vertical or horizontal. Answers are in the word bank.

Pigeon 2

Fieldtrip to see pigeons

Pigeons are very common birds – feral pigeons in towns and wood pigeons in rural areas. Show the pupils the photographs before going out.

Identification and observational skills:
What pigeons did they see and what were they like? What were they doing? How many were seen?

Food Chain:
Pupils identify and name the drawings in the food chains illustrated.

Bee 1

Worksheet in three sections

Writing practice:
Pupils practise writing the words bumble bee honey bee

Observational skills:
Pupils spot the differences between the drawn honey bee and bumble bee.

Information about bees:
Pupils fill in the sentences using the words in the word bank.

Bee 2

Fieldtrip to see bees

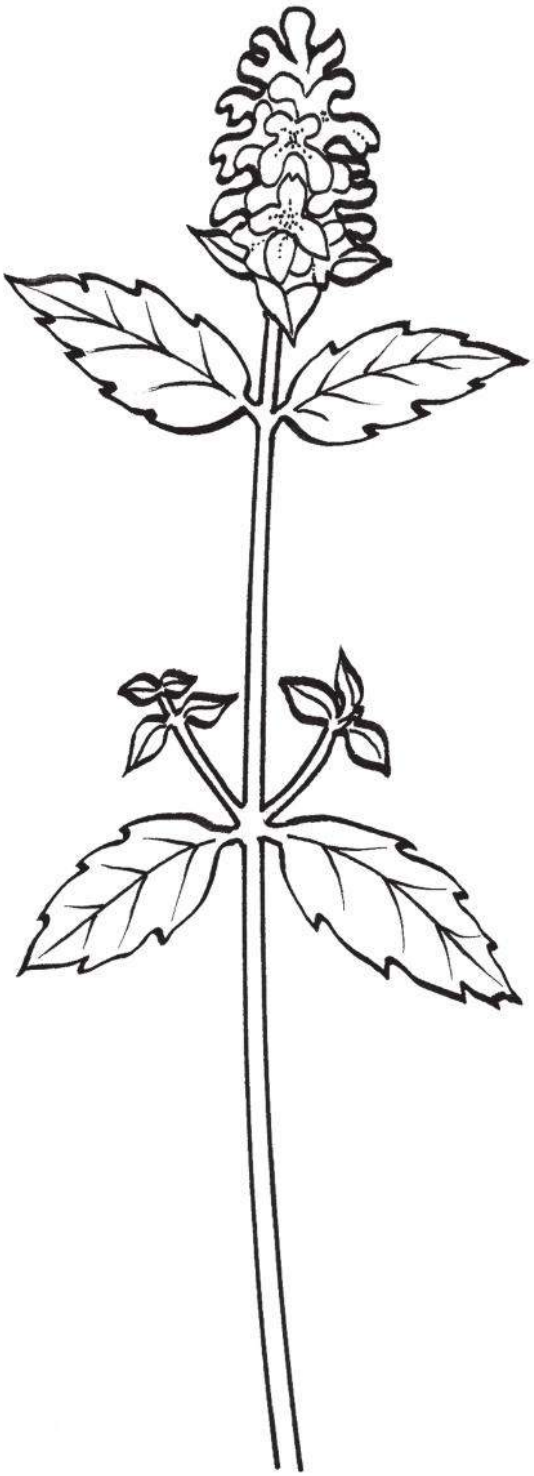
Observational skills:
Bees visit flowers on dry sunny days so make sure there are flowers to visit and that it is a dry day. Both honey bees and bumble bees may come. Encourage the children to stay quiet and observe the bees who will be busy visiting the flowers.

Bees collecting pollen will have yellow pollen baskets on their back legs. Bees collecting nectar stick their heads well into the flower as the nectar is hidden deep in the flower. Encourage the children to stay quiet, be patient and observe.

Improving the environment for bees:
Planting more nectar-bearing flowers. Bees love herbs such as sage and rosemary as well as flowering shrubs such as pyrocantha and hawthorn.

Dathaigh an pictiúr i gceart.

Tá dath corcra ar na bláthanna agus ar na duilleoga.



Cén fáth a bhfuil an t-ainm 'duán ceannchosach' air?

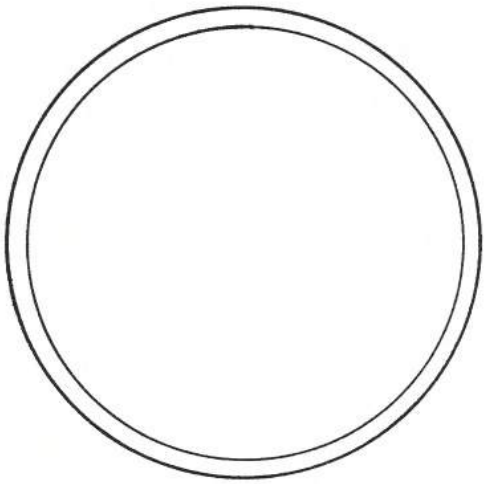
Cé mhéad focal is féidir leat a dhéanamh as 'duán ceannchosach'?

_____ _____ _____

_____ _____ _____

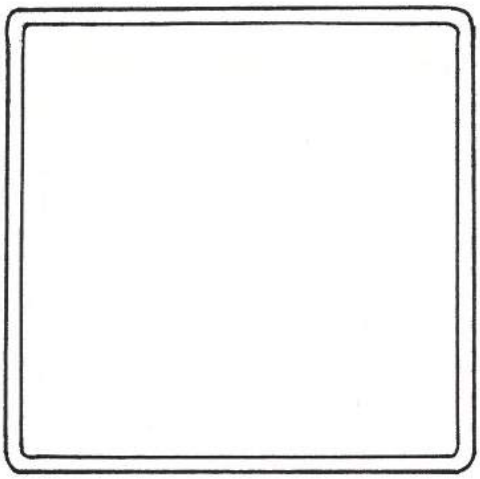
_____ _____ _____

Turas allamuigh: duán ceannchosach. Beidh na nithe seo de dhíth ort:



Fonsa

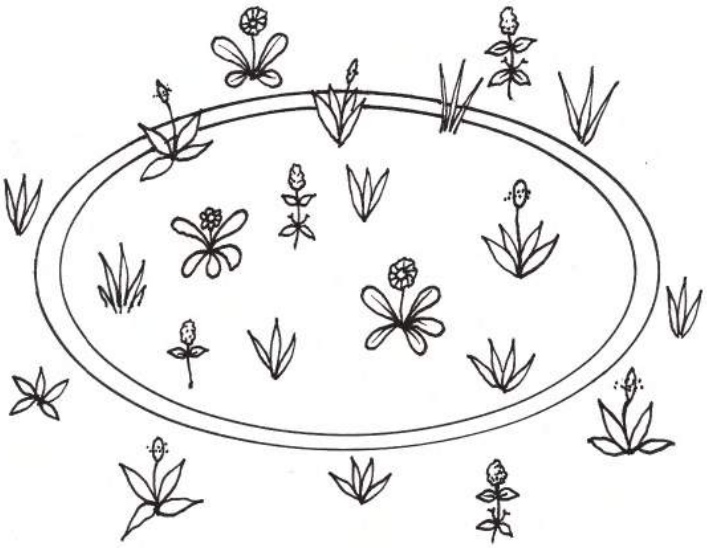
nó



Cuadraí

Téigh amach agus cuir an fonsa nó an cuadraí síos ar thalamh a bhfuil féar ag fás air. Déan liosta de na plandaí san fhonsa atá ar eolas agat.

Plandaí	Líon



An planda is coitianta atá ann? _____

An planda is neamhchoitianta atá ann? _____

Fásann an slánlus ar thalamh féaraigh.

Ainmnigh na bláthanna seo a leanas. Dathaigh na pictiúir.

Cá háit a mbíonn siad ag fás?

Páirc	Fál

Turas allamuigh: an slánlus. Téigh amach agus aimsigh slánlus.

D'aimsigh muid slánlus anseo: _____.

Bailigh duilleog ón slánlus agus greamaigh anseo í.

Déan cur síos ar an duilleog.

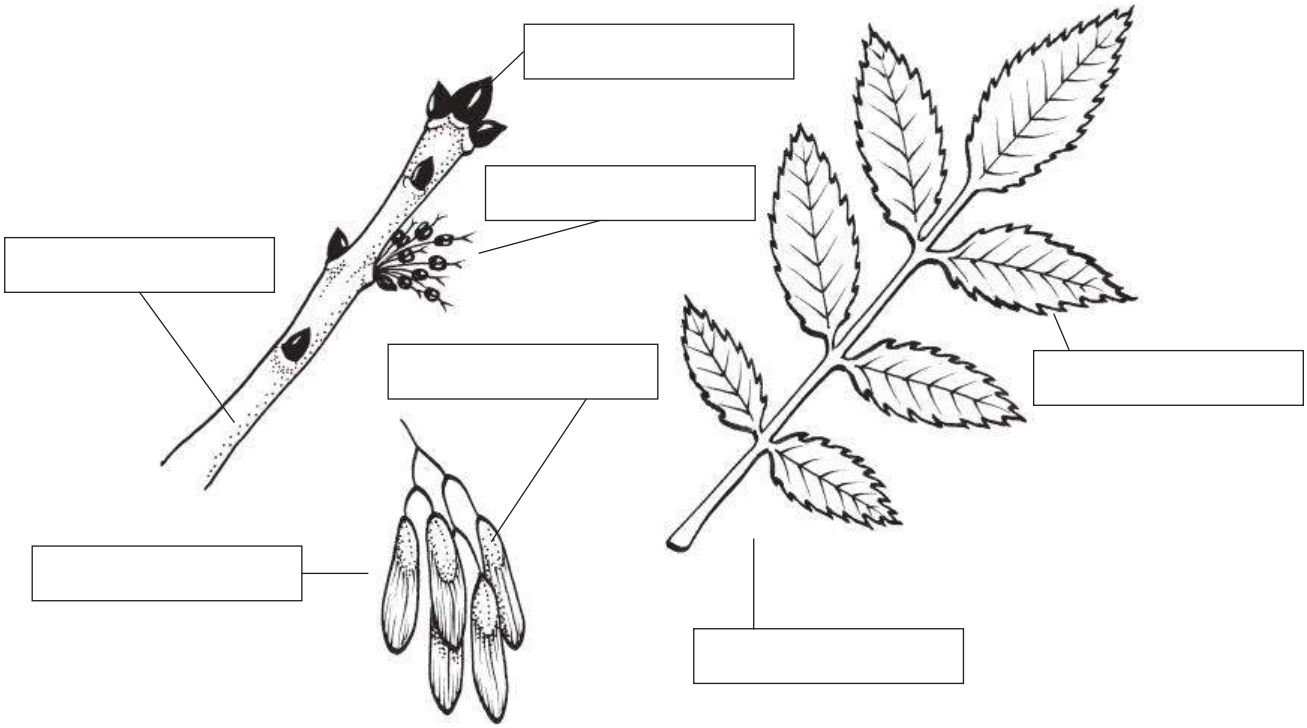
Tá duilleog an tslánlusa _____

_____

Tarraing pictiúr de bhláth an tslánlusa.

Cén fáth nach bhfuil peitil air?_____

Ainmnigh codanna na fuinseoige.



CNUASACH FOCAL

duilleog duillín bachlóg craobhóg síol bláthanna eochróga

Ceangail an mhí leis an rud a tharlaíonn.

Eanáir	**Bíonn an crann clúdaithe le duilleoga**
Aibreán	**Bíonn bláthanna ar na craobhóga**
Bealtaine	**Titeann na duilleoga**
Meitheamh	**Briseann na bachlóga amach ina nduilleoga**
Lúnasa	**Déantar na síolta**
Meán Fómhair	**Tagann dath órga ar na duilleoga**
Deireadh Fómhair	**Bíonn na bachlóga lom**

Téigh ar thuras allamuigh chun fuinseog a fheiceáil.

Fásann ár bhfuinseog i _____ .

Tá _____ duillín ar dhuilleog m'fhuinseoige.

Tarraing do dhuilleog fuinseoige anseo.

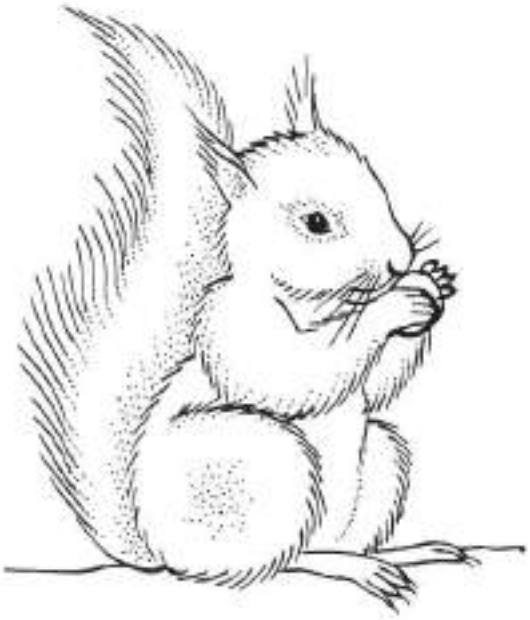
Bhí _____ag fás ar choirt ár bhfuinseoige.

Fuair muid _____ar na duilleoga.

Scríobh:

Iora rua _____

Iora glas _____



Rua

Glas

Maidir leis an iora rua agus an iora glas, scríobh síos trí dhifríochtaí.

1. _____

2. _____

3. _____

Críochnaigh na habairtí.

Cónaíonn iora i _____.

Itheann na hioraí uilig _____.

Ní _____ **ioraí.**

CNUASACH FOCAL		
dearcáin	**nead iora**	**gheimhríonn**

Tá na hioraí uilig ina luibhiteoirí. Líon isteach na slabhraí bia.

	Iora
Buaircíní péine	
Bachlóga crainn	

Itheann na cait chrainn na hioraí.

Líon isteach slabhra bia iomlán.

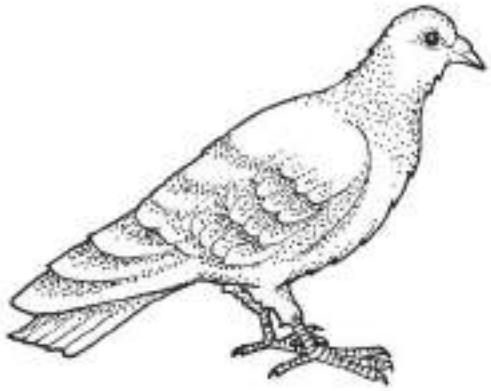
Is i _____ a gcónaíonn na hioraí is gaire d'ár scoil.

Scríobh:

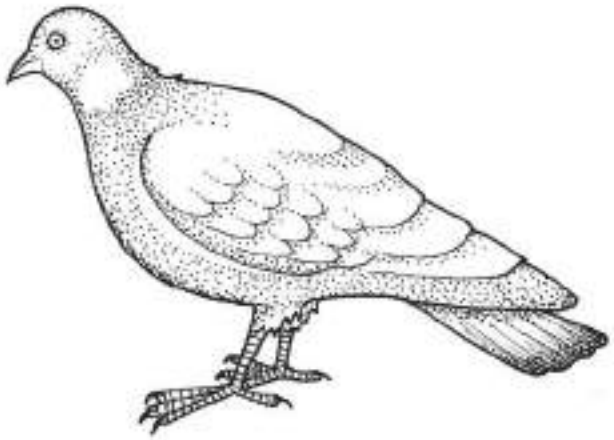
Colúr _____

Colm Coille _____

Maidir le colm coille agus fiacholm, scríobh síos na difríochtaí.



Fiacholm



Colm Coille

Toise	**níos lú**	**níos mó**
Gob		
Dath		
Gair		

Cuardach focal

E	A	L	T	A	R	Á	N	C	A	C
C	A	O	R	T	H	R	O	I	M	O
C	A	B	Á	I	S	T	E	N	C	L
G	O	B	C	U	A	C	H	E	O	Ú
U	B	H	S	U	C	L	E	A	L	R
S	I	O	N	N	A	C	H	D	M	H

CNUASACH FOCAL

SIONNACH
CABÁISTE
COLÚR
COLM
NEAD
GOB
EALTA
CUACH
ARÁN
CAOR THROIM
UBH

Turas Allamuigh. Téigh amach le do mhúinteoir chun colúir a lorg.

Cén cineál colúir atá feicthe agat? _____

Cad é an bia a itheann na colúir? _____

Cé mhéad colúr atá feicthe agat? _____

Cad a bhí ar siúl acu? _____

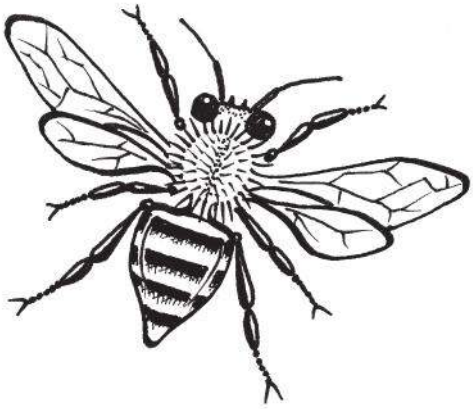
Scríobh síos ainmneacha na nithe atá i mbia slabhra an cholúir.

CNUASACH FOCAL				
cabáiste	fabhchún gorm	colúr	síolta	sionnach

Scríobh:

Bumbóg _____

Beach Mheala _____



Maidir le bumbóg agus beach mheala, scríobh síos na difríochtaí.

Cé acu is mó		**Is lú**	
Atá go hiomlán clúmhach		**Nach bhfuil go hiomlán clúmhach**	
A bhfuil stríocaí beaga ar a corp		**Atá go hiomlán stríocach**	
A bhfuil coim chaol uirthi		**Atá go hiomlán leathan**	

Críochnaigh na habairtí.

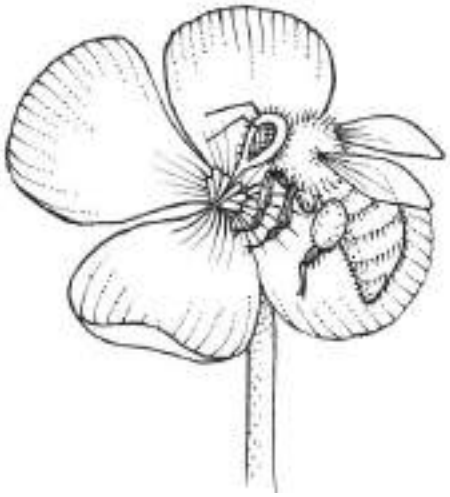
Bailíonnna beacha uilig _____ **agus** _____.

Déanann na beacha uilig _____.

CNUASACH FOCAL

neachtar **mil** **pailin**

Turas allamuigh. Téigh amach chun beacha a lorg.



Cá háit a bhfaca tú beacha? _____

Cén cineál aimsire a bhí ann? _____

Cé mhéad ama a chaith tú ag lorg beach? _____

Cad iad na cineálacha beach atá feicthe agat? _____

Cad a bhí á bhailiú ag na beacha? _____

Cá bhfios duit? _____

Conas is féidir leat clós na scoile a dhéanamh níos fearr do na beacha? _____

_____

Na pictiúir de bheacha a tharraing tú.

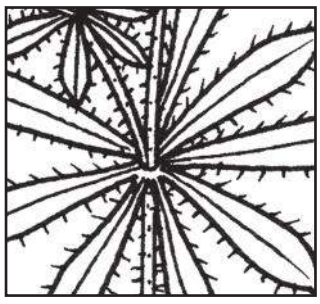
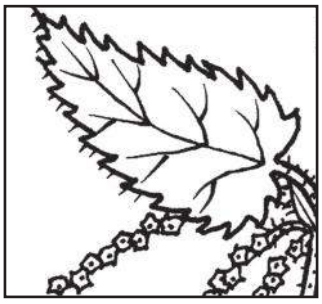
Introduction to 3rd Class Worksheets

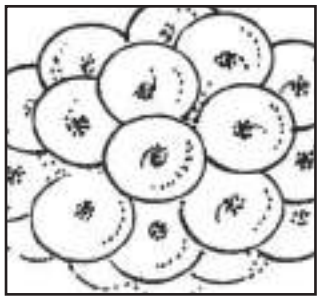
Garbhlus	**Robin-run-the-hedge**
Neantóg	**Nettle**
Sceach gheal	**Hawthorn**
Frog	**Frog**
Fáinleog	**Swallow**
Seilide garraí	**Snail**

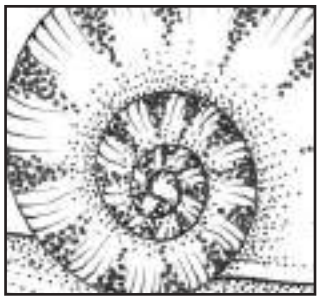
In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the children themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons first on each topic first and then shown the pictures for each species provided.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly. Return any animals collected to the wild. The worksheets need not necessarily be done in the order in which they are given.

There is also emphasis on food chains and how animals live in the wild so that completing the worksheets adds to the children's knowledge. By third class, the pupils will have already learned about a considerable number of plants and animals so these worksheets refer to species learned earlier and so act as a form of revision. The worksheets are designed to be photocopied and handed out to the pupils.





3rd Class Teacher Notes

Robin-run-the-hedge 1

Worksheet in two sections

Introduction to plant: Pupils colour in the robin-run-the-hedge plant and leaves. Show the pictures of the plant to the pupils first so that they know what colour it is. The flowers are tiny so they must look at the drawing very carefully to ascertain that it has 4 petals

Word Search: The English, Irish and Latin words for robin-run-the-hedge are hidden in the word search. As well as horizontal and vertical, words are also presented backwards in diagonal, horizontal and vertical fashions. All the words in the word search are given in the word bank.

Robin-run-the-hedge 2

Fieldtrip (Do this in late May or June)

This plant grows in hedges so you must bring the pupils there to look for it. They must collect a specimen each and examine it for flowers or seeds. Back in class, they should examine the plant with a magnifying glass or the lid of a bug box so that they can see the hooks on the leaves. Seeds can be planted in pots of compost to see when germination occurs. Is this a continuously growing plant or does it just germinate and grow once a year with the seeds set waiting until the next year to grow again?

Nettles 1

Worksheet in two sections

Introduction to the plant: Show the class the picture and do a lesson from the book. The flowers are wind pollinated and so have no petals, as they do not need to be seen by insects.

Cooking Skills: Consider making nettle soup in class, in early May when the nettles are young. You can make a full green nettle soup using nettles, onions and a stock cube or add potatoes to thicken it up and make it less green.

Nettles 2

Fieldtrip to see nettles

Nettles grow in ditches and neglected places so finding them should be easy. If you grasp a nettle firmly, it won't sting – it really does work but only the teacher should try this!

Hunting for insects: Teacher – wearing gloves – should run a sweep net through the nettles and then empty the contents into a bucket or dish. They can be gathered up by the pupils using pooters and put into bug jars with magnification lids. Caterpillars, greenflies and spiders all frequent nettles.

Hawthorn 1

Worksheet in three sections

Introduction to the tree: Show the class the picture and tell them about it, following the account in the book. Pupils then name the parts of the tree and colour in the leaves and haws. There is no word bank at this stage for third class but they should know leaf, flower, thorn, haws or berries.

Finding out the meaning of the names: Discuss this with the class so that they can work it out. Hawthorn – it has thorns and the berries are haws. Whitethorn is called that because the flowers are white. The May Bush gets its name because it blooms in May and sceach geal is, of course, bright bush, referring again to the white flowers.

Making words: Lots of words can be made from this – check in a dictionary if there are disputes.

Hawthorn 2

Fieldtrip

Time of Fieldtrip: In September, there will be haws on the tree and lots of creepy-crawlies on the leaves. In May, there will be leaves and flowers. There may also be ivy, moss or lichen on the bark.

Finding wildlife: Quiet observation may yield bird and flying insect sightings. They must watch for at least 5 minutes counted on a watch. Shake the branches into an open umbrella and observe the greenflies, ladybirds, spiders, caterpillars and shield bugs which drop in. Green things will be herbivores; ladybirds and spiders are carnivores; and birds such as robins, thrushes and blackbirds are omnivores.

Frog 1

Worksheet in two sections

Learning: Frogs are amphibians, which means that they can breathe on land through their lungs and in the water through their skin. Frogs do not have gills. They hibernate for the winter.

Food Chains: Frogs are carnivores and eat flies and in turn are eaten by herons.

Frog 2

Practical Work

It is well worth collecting frog spawn and observing the life cycle in class. It will take several weeks to fill out this sheet – a large version of it could be posted on the classroom wall and filled in as the results become apparent. It is not illegal for teachers to collect frog spawn for educational purposes in class. The National Parks and Wildlife Service automatically issues a licence each year to schools for this purpose so there is no need to apply.

An empty fish tank is good for keeping the frog spawn in and they should be fed with the daphnia-type of fish food, not the flakes. The tank must be cleaned weekly once the tadpoles are swimming around. Put some of the tank water into a bucket. Scoop up the tadpoles with a net and put into the bucket, then empty and clean the tank. If you use detergent be sure and rinse it very well as any soap residue will kill the tadpoles. Use rain water, ideally, to replenish the tank then scoop the tadpoles back in from the bucket. If you only have tap water, you should leave it stand for two days in a bucket or bowl so that the chlorine which is added to tap water can evaporate off. When the frogs have all their four legs, let them off in the school field, or if the holidays come before this stage, they must go back to the pond as they are yet not independent of water.

Swallow 1

Worksheet in two sections

Crossword skills: Following a lesson on the swallow, pupils should be able to fill in this crossword. Note that swallows always nest inside a building – it is house martins that nest outside under the eaves.

Observation skills: Recording the first swallow seen is a sign that Spring is here. This usually happens after St Patrick's Day. The nearest swallow's nest will be inside a barn – pupils may report that swallows nest in their barn every year.

Swallow 2

Worksheet in two sections

Learning about food chains: Swallows are aerial carnivores. They never come to land and eat worms. They only feed on flying insects, so have to return to Africa in winter as they cannot eat berries or ground-dwelling creepy-crawlies.

Dangers to Swallows: A class discussion here about a swallow's life and the problems faced, such as bad weather and not enough insects; no access to sheds as farmers repair old buildings; dangers on the journey to Africa e.g. adverse winds, running out of fat reserves, being hunted by hobbies (birds of prey in warmer countries that chase swallows).

Snail 1

Worksheet in three sections

Parts of the snail: Pupils can fill these in following class lesson

Fieldtrip: School grounds after Easter will be a good habitat for snails. They like to hide during the day so look behind and below sheltered places.

Creating snail traps: Putting out shelter for snails will make them easier to find. Give each class group of four pupils a piece of carpet, an old mat, a piece of lino etc., to place it where it might provide shelter.

Snail 2

Snail experiment

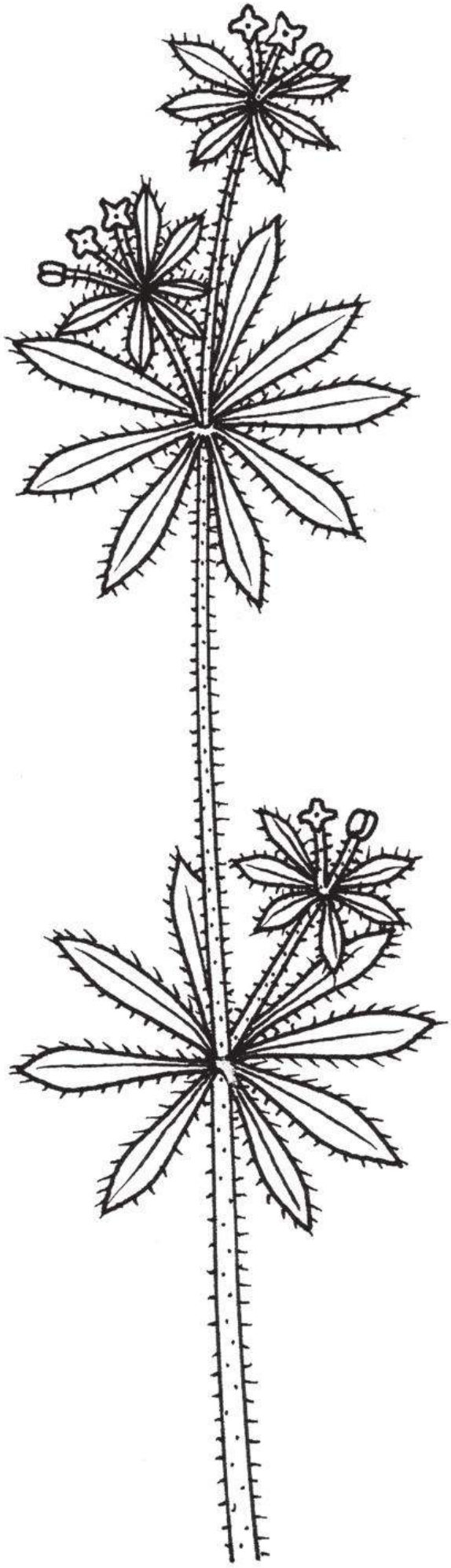
This is to see how many snails are in the school grounds. The lower the percentage of marked snails found the second time, the more snails are in the area. Let's suppose you mark 40 snails the first time and then the second time you find 40 snails and only four of them are marked. Four is 10% of 40. So the first group you marked was only 10% of the whole population which is this case is 400 snails. But you needn't trouble 3rd class with such higher maths!

Dathaigh an pictiúr agus ainmnigh:

1. na duilleoga

2.na bláthanna **(breathnaigh go géar)**

Tá _____ peiteal ar na bláthanna.



CUARDACH FOCAL

Tá ainmn an phlanda seo ar fáil sa Chuardach Focal thíos i mBéarla (3) i nGaeilge (2) agus i Laidin (1). Téigh trasna, síos, ar fiar agus siar agus tú á gcuartú.

A	É	S	U	L	H	B	R	A	G
O	C	T	U	U	E	A	A	O	C
S	L	I	R	R	S	K	O	O	R
B	E	C	G	R	A	S	S	U	L
G	A	K	É	O	E	I	G	A	U
A	V	Y	G	G	A	L	I	U	M
G	E	B	R	O	R	G	S	G	L
C	R	A	K	E	A	A	G	H	G
A	S	C	E	S	A	Y	É	S	G
S	U	K	G	S	A	G	B	F	A

CNUASACH FOCAL

CLEAVERS	GARBHLUS
STICKY BACK	FÉAR GÉ
GOOSE GRASS	GALIUM

Turas allamuigh

Téigh in éineacht le do mhúinteoir chun an garbhlus a chuartú.

Fuair muid an garbhlus _____

_____

Tá duilleoga an phlanda seo clúdaithe le crúcaí greamaitheacha.

Cén fáth? _____

An bhfuil bláthanna ar do phlanda? _____

An bhfuil síolta ag do phlanda? _____

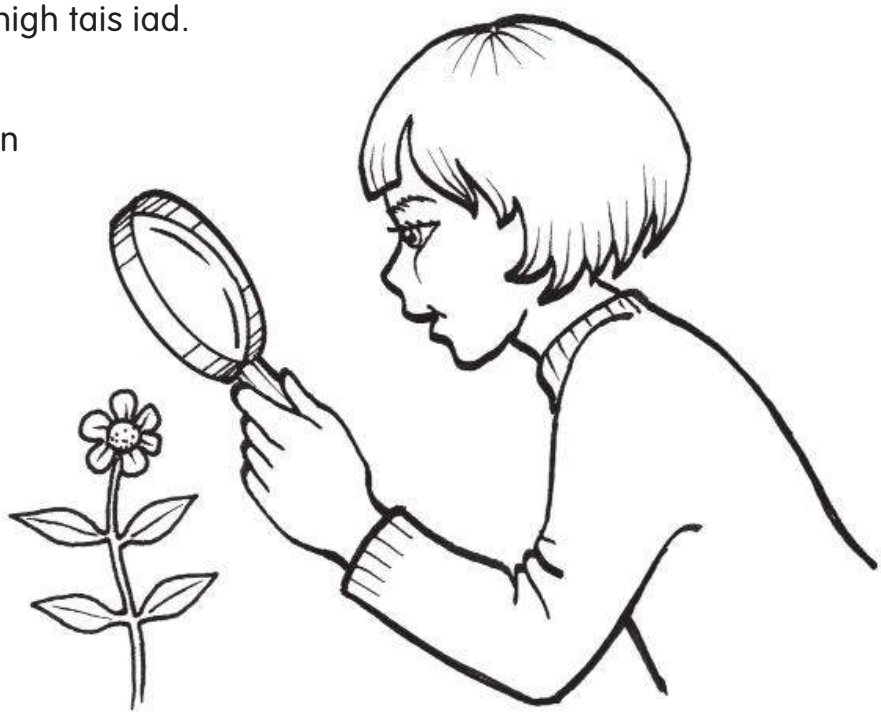
Beir planda agus síolta leat ar ais go dtí an rang.

Scrúdaigh do phlandaí agus do shíolta le gloine formhéadúcháin.

Chonaic muid _____
tríd an ngloine formhéadúcháin.

Bailigh na síolta agus cur iad i gcré i bpota a raibh íogart ann cheana. Cuir na potaí san fhuinneog agus coinnigh tais iad.

Cé mhéad ama a thógann
sé ar na síolta le fás?



Is plandaí iad neantóga a fhásann ar an bhfuaraíocht.

Ainmnigh:

1. na duilleoga

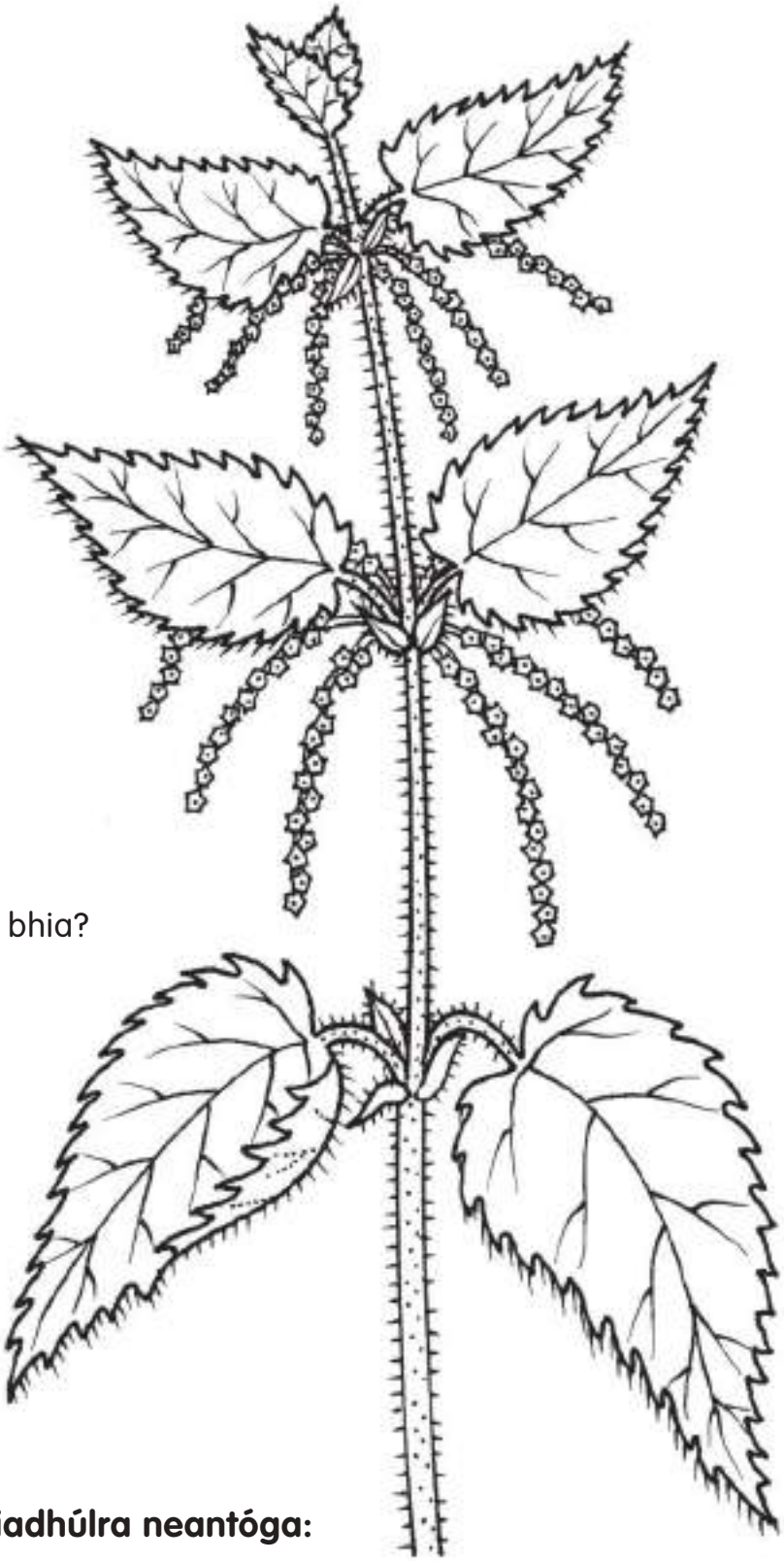
2. an gas

3. na bláthanna

Cén fáth nach mbíonn peitil
ar bhláthanna na neantóige?

_____

_____



Fadó, fadó, d'úsáidtí neantóga mar bhia.

FAIGH AN tEOLAS:

Cén bealach a d'úsáidtí iad mar bhia?

Rinneadh _____
as neantóga.

Itheann chuid mhaith den fhiadhúlra neantóga:

Itheann _____ neantóga

Itheann _____ neantóga.

Turas allamuigh

Fásann neantóga ina ngrúpaí agus i bhfoirm toim.

Bíonn cealg ar na duilleoga, mar sin **BÍ CÚRAMACH.**

Fuair muid neantóga _____

An bhfaca tú aon chréatúr ar na neantóga díreach nuair a d'fhéach tú orthu?

_____

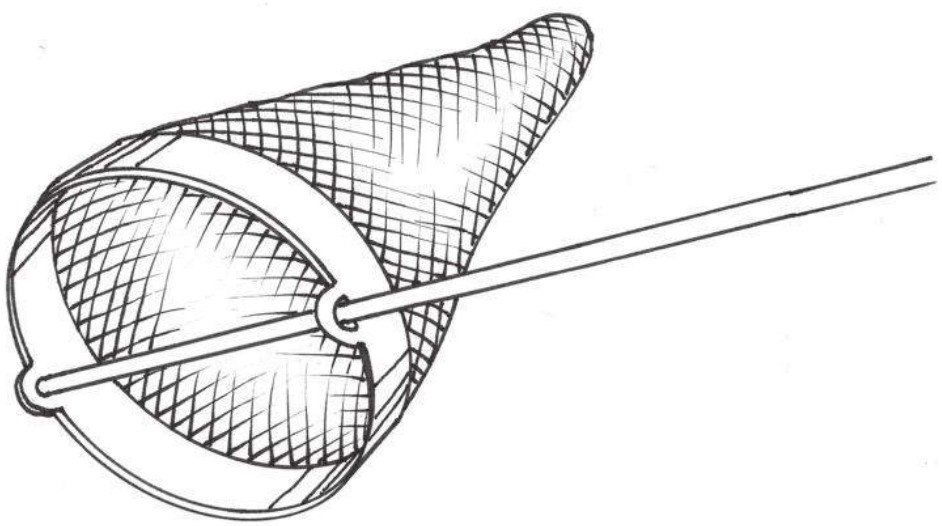
Scuabfaidh Múinteoir na neantóga le líontán scaobtha chun breith ar na creatúir atá ar na duilleoga.

Folmhaigh an líontán isteach i mbuicéad nó síos ar thrádaire.

Fuair muid _____

_____

ar ár neantóga.



Cad atá go maith chun dealg neantóige a leigheas, dar le cuid daoine?

_____

Cén fáth? _____

An oibríonn sé? _____

Ainmnigh codanna na sceiche gile agus dathaigh iad.

Seo na hainmneacha go léir a thugtar ar an gcrann seo.
An féidir leat iad a mhíniú?

Tugtar "hawthorn" air mar _____

Tugtar "whitethorn" air mar _____

Tugtar crann Bealtaine air mar _____

Tugtar sceach geal air mar _____

Cé mhéad focal is féidir leat a dhéanamh as na litreacha: AN SCEACH GHEAL?
(Ní mór duit ceithre focal le dhá litir, cúig cinn le trí fhocal, ceithre cinn le ceithre focal, ceann amháin le cúig cinn agus ceann amháin eile le seacht gcinn a aimsiú).

_____

_____

_____

_____

An Turas Allamuigh

Seo turas allamuigh a dhéanfar chun sceach gheal a aimsiú. Beidh na nithe seo de dhíth ar an múinteoir: scáth fearthainne agus prócaí Pooter le clúideacha.

Dáta an turais _____

An turas samhraidh nó turas fómhair é an turas allamuigh seo? _____

Féach go cúramach ar an sceach gheal.

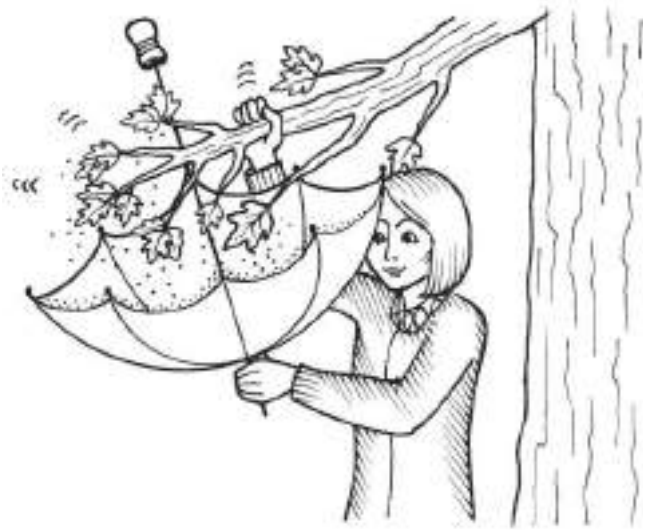
Tá _____ ar mo sceach gheal.

Tá _____ ag fás ar choirt mo chrainn.

CNUASACH FOCAL: **duilleoga, bláthanna, dealga, bachlóga, seachóidí**

Fiadhúlra a thug cuairt ar mo chrann

Bhreathnaigh muid go ciúin ar feadh cúig nóiméad agus chonaic muid _____ ag tabhairt cuairt ar ár sceach gheal.



Tháinig siad chuig ár gcrann ag cuardach

_____

Chrith ár múinteoir an crann agus thit na duilleoga isteach sa scáth fearthainne

Fuair muid _____ sa scáth fearthainne.

Maidir leis na créatúir atá istigh sa scáth fearthainne cé acu atá ina

Luibhiteoirí? _____

Ina bhFeoiliteoirí? _____

Ina nUiliteoirí? _____

Is ionann frog agus:

☐ **Éan** ☐ **Iasc** ☐ **Amfaibiach**

Is féidir le froganna aer agus uisce a análú isteach. ☐ Fíor ☐ Bréagach

Codlaíonn froganna sa gheimhreadh. ☐ Fíor ☐ Bréagach

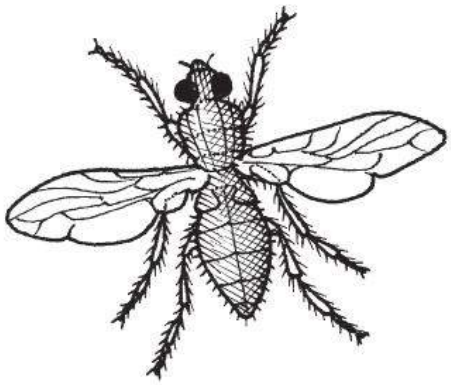
Análaíonn froganna san aer lena gcuid _____.

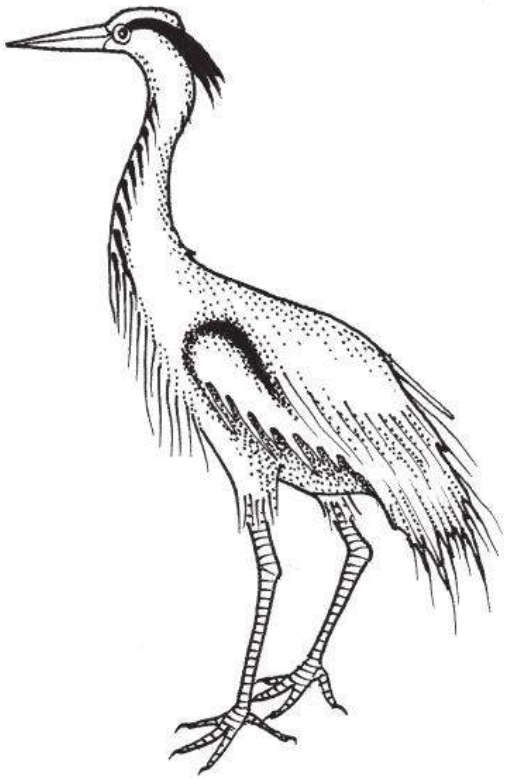
Análaíonn froganna san uisce trína gcuid _____.

Roghnaigh an focal ceart ón gcnuasach foclal.

CNUASACH FOCAL: **GEOLBHAIGH, CRAICEANN, SCAMHÓGA**

Ainmnigh na nithe i slabhra bia an fhroig.





	Frog	

Saolré an fhroig

I mí Feabhra, dúisíonn froganna tar éis chodladh an gheimhridh. Téann said go dtí an lochán is gaire dóibh chun glóthach froig a bhreith.

Le Déanamh:

1. Téigh amach agus faigh glóthach froig. Cá háit a bhfaca tú an ghlóthach froig?

_____

Dáta ar a bhfuair tú an ghlóthach froig _____

2. Beir glóthach froig ar ais leat go dtí lochán na scoile nó go dtí umar éisc sa seomra ranga.

Breathnaigh ar na torbáin agus iad ag teacht amach.

Thainig ár gcuid turbán amach ar _____ (dáta)

3. Cothaigh na torbáin le bia éisc agus glan an t-uisce amach gach seachtain.

NÁ BAIN ÚSÁID AS UISCE ÓN SCONNA.

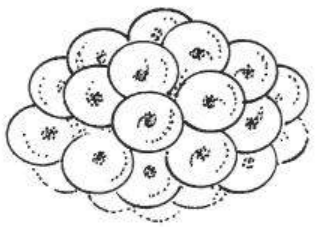
4. Is i bpéireanna de réir a chéile a fhásann cosa na dtorbán.

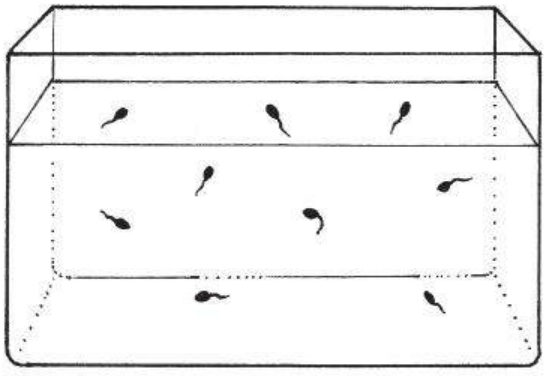
D'fhás cosa _____ ár dtorbán don chéad uair ar _____ (dáta)

5. D'fhás dhá chos eile ár dtorbán ar _____ (dáta)

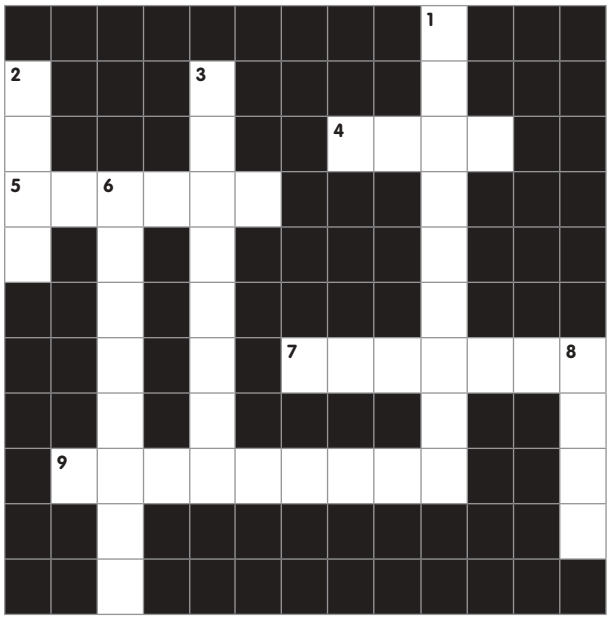
6. Scaoil muid ár dtorbáin/ár bhfroganna roimh laethanta saoire an tsamhraidh ar

_____ (dáta)





Crosfhocal

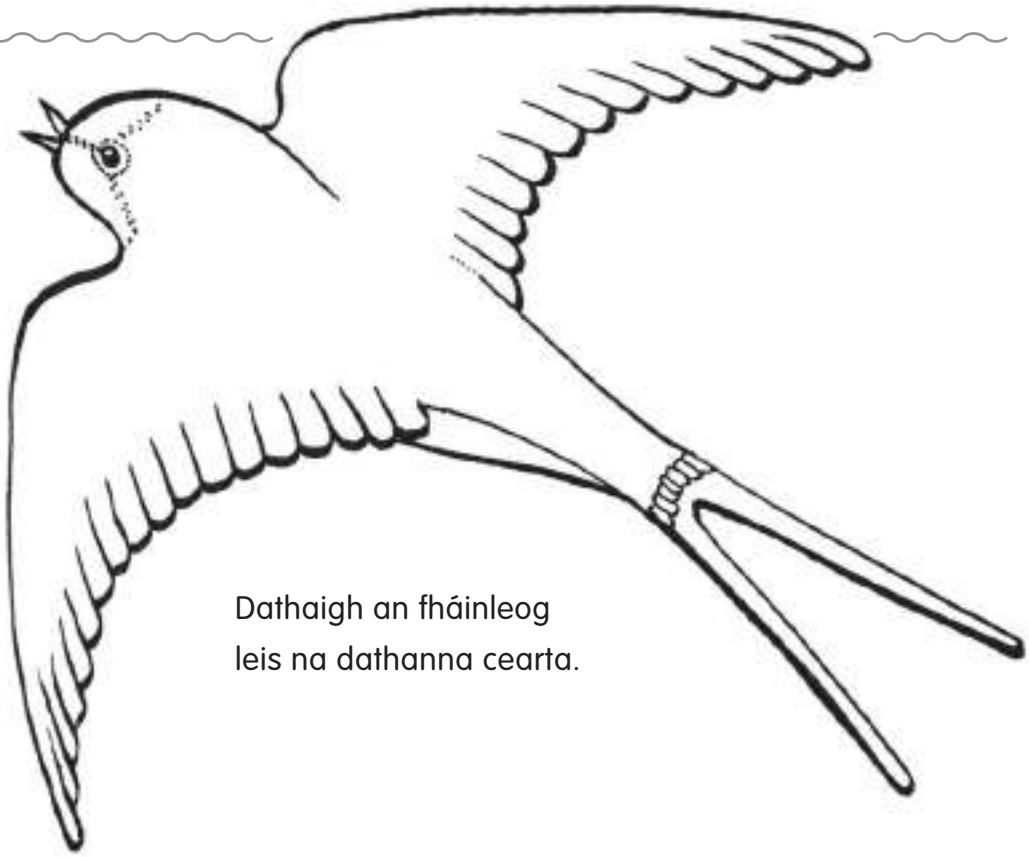


Trasna

4. Mise agus Tusa
5. Téann na fáinleoga go dtí an áit seo cun an geimhreadh a chur isteach
7. Is minic a thógann an fháinleog a nead laistigh de cheann acu seo
9. Beireann na fáinleoga cúig cinn acu seo

Síos

1. Filleann siad ón Aifric i mí an Mhárta
2. Áit chónaithe na fáinleoige, agus déantar as láib í
3. Tógann na fáinleoga a neadacha _____ d'fhoirgneamh I gCÓNA
6. Is iad na rudaí seo amháin itheann siad
8. Bailíonn siad seo ina ngoba le nead a thógáil



Dathaigh an fháinleog
leis na dathanna cearta.

Cathain a bhfaca tú an chéad fháinleog i mbliana? _____

Cá bhfuil an nead fáinleoige is gaire duit? _____

Cén dath a bhíonn ar aghaidh fáinleoige? _____

FAIGH AN tEOLAS:

Cad é an Béarla ar an bhfocal 'fáinleog'? _____

Ainmnigh na creatuir

Is feoiliteoir í an fháinleog agus feithidí san aer amháin a itheann sí. Ainmnigh na créatúir seo a leanas agus tarraing líne idir an fháinleog agus na créatúir a itheann sí.

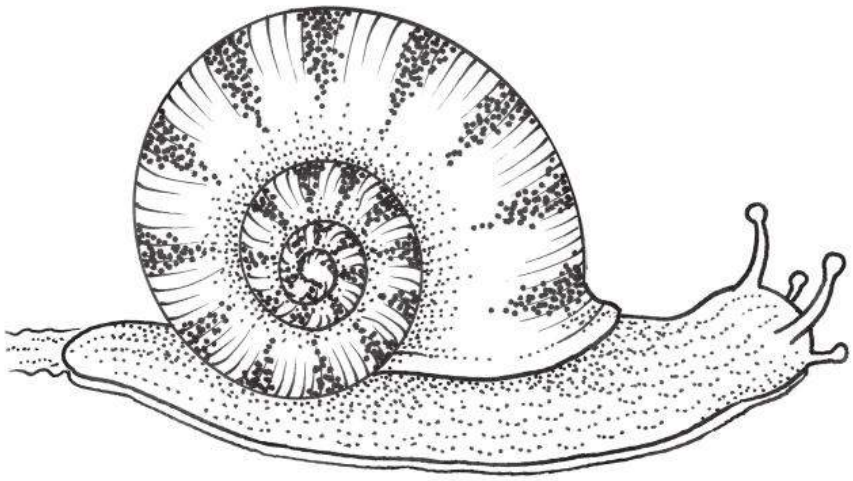
CNUASACH FOCAL	Féileacán	Snáthaid Mhór	Fáinleog	Corrmhíól
	Damhán Alla	Cláirseach	Péist Talún	Damhán Cosfhada Tí

Líon isteach an dá shlabhra bia thíos.

		FÁINLEOG
		FÁINLEOG

Cad iad na contúirtí a bhíonn os comhair na bhfáinleog i rith a saoil?

Ainmnigh codanna an tseilide.



CNUASACH FOCAL	SÚILE	COS	RONNA	SLIOGÁN	BAILL BHOLUITHE

Turas allamuigh chun áit chónaithe na seilidí a fheiceáil

Saghas aimsire ar lá an turais _____

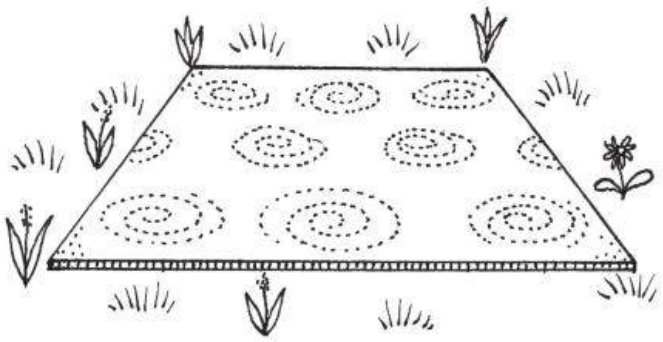
Cá háit a bhfuair tú an méid is mó seilidí?_____

Arbh seilidí garraí iad go léir?_____

Déan cur síos ar aon cheann eile a d'aimsigh tú_____

Dídean a dhéanamh do na seilidí

Beidh go leor seilidí de dhíth ort chun an turgnamh atá ar bhileog oibre 2 a dhéanamh, mar sin ní mór duit áiteanna a dhéanamh ionas go mbeidh sé ar chumas na seilidí dul i bhfolach iontu.



Na rudaí a bheidh de dhíth ort - seanmhata, nó píosa beag de bhrat urláir, nó píosa de líonóil, nó mála mór plaisteach – ceann do gach grúpa de cheathrar sa rang, más féidir.

Le Déanamh:

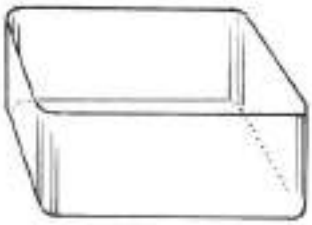
Leag síos ar an talamh iad gar don chlaí nó don bhalla sa dóigh is nach gcuirfear isteach orthu, nach siúlfar orthu agus nach dtógfar ar shiúl iad. Fág ansin iad ar feadh seachtaine ar a laghad. Ansin thig leat dul ar aghaidh go dtí bileog oibre do sheilidí, uimhir 2.

Turgnamh

Turgnamh éiceolaíoch le haghaidh staidéar a dhéanamh ar líon na seilidí atá i gclós na scoile.

Seachtain 1: Oibríonn an rang ina ghrúpai de cheathrar

Beidh na nithe seo de dhíth ort le haghaidh gach grúpa:



Bosca mór plaisteach

Buidéal de vearnais ingne dhaite

Le Déanamh:

Bailíonn gach grúpa an oiread seilidí agus is féidir, ní mór dóibh cuimhneamh ar an áit ina bhfuarthas iad. Ba cheart go mbeadh go leor acu faoi na gaistí a rinneadh as brat urláir.

Comhair na seilidí. Líon na seilidí a bailíodh

_____.

Déan marc ar bharr gach seilide trí spota beag den vearnais ingne a chur ar bharr an phoigheacháin.

Scaoil amach na seilidí sna háiteanna ina bhfuair tú iad agus cuir na gaistí a rinneadh as brat urláir ar ais ar an talamh.

Seachtain 2: Amach libh arís i bhur ngrúpaí agus bailígí gach seilide is féidir. Cuir isteach sa bhosca plaisteach iad agus comhair iad.

Líon iomlán na seilidí a fuair sibh: _____

Líon na seilidí a bhfuil marcanna vearnaise ingne orthu: _____

Líon na seilidí nach bhfuil marcanna vearnaise ingne orthu: _____
Seo líon na seilidí nua atá i gclós na scoile an tseachtain seo.

Ar aimsigh tú na seilidí uilig ar mharcáil tú le vearnais ingne an tseachtain seo caite? _____

Cén fáth a bhfuil cuid acu ar iarraidh, meas tú? _____

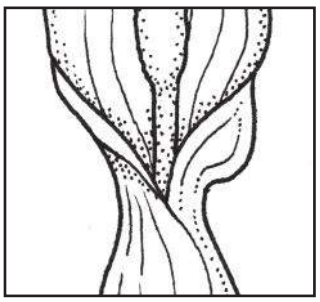
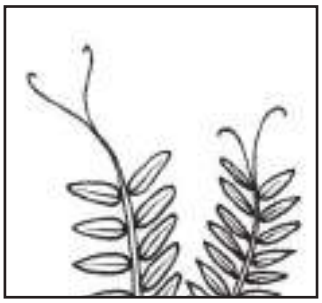
Introduction to 4th Class Worksheets

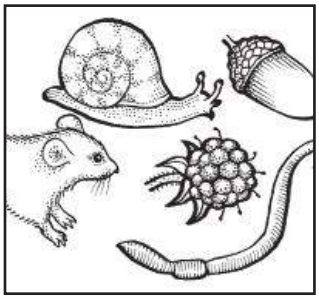
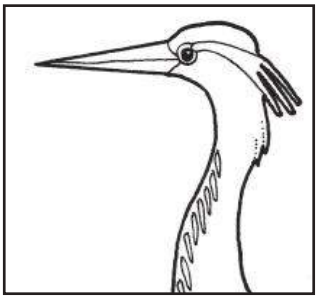
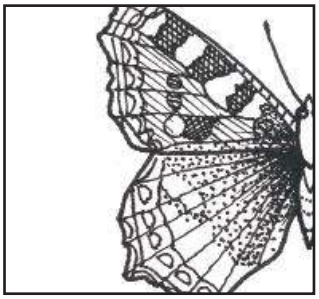
Cluas chaoin	**Lords and Ladies**
Peasair capaill	**Vetch**
Trom	**Elder**
Broc	**Badger**
Corr réisc	**Heron**
Féileacán	**Butterfly**

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly and return any animals collected to the wild. The worksheets need not necessarily be done in the order in which they are given.

There is also emphasis on food chains and how animals live in the wild so that completing the worksheets adds to the children's knowledge. By fourth class, the pupils will have already learned about a considerable number of plants and animals so these worksheets refer to species learned earlier and act as a form of revision. This is particularly evident in the worksheets on plants and trees. The worksheets are designed to be photocopied and handed out to the pupils.

4th Class Teacher Notes

Lords and Ladies 1

Worksheet in three sections

Introduction to plant: Pupils colour in the Lords and Ladies plant in both summer and autumn form. Show the pictures of the plant to the pupils first so that they know what colour it is.

Revision: Four flowers that live in hedges and have already been learned by the pupils are shown here – primrose, bluebell, robin-run-the-hedge and nettle. They should recognise each one.

Working things out: Why should these plants flower in spring? What do plants need to grow? – light. When the leaves come on the trees in the hedge, these small plants do not get enough light to flower. So they have adapted to where they live by flowering early.

Lords and Ladies 2

Fieldtrip (Do this in April or early May – after Easter)

Ability to find plants: The plant has been described to them in class. Now they should be able to find it in a hedge or wooded part of park but do not let them pull them all up.

Genetic ability to smell the particular smell of the stalk of Lords and Ladies: Teacher pulls a plant and crushes the stalk. Choose a plant that is ripe and has insects at the bottom of the flower. Ask each pupil in turn to describe the smell. Note who can and who can't detect the smell. Do the majority smell it or not?

Vetch 1

Worksheet in two sections

Noticing features of the plant: Knowing how the plant grows towards the light, pupils identify the relevant parts of the plant.

Word search: Pupils find all the words that have to do with vetch. Horizontal, diagonal, vertical and backwards are all used to find the words in the word bank.

Vetch 2

Fieldtrip

Revision: The visit to the hedge to look for flowers is not just for vetches, but for all the other hedge plants they have learned. They prove their knowledge by collecting a leaf from each one and sticking it to a page in class with the correct name. They can use several pages to stick down the leaves if necessary. (Sellotape is good for this).

Elder 1

Worksheet

Revision: The five trees they should know by now, together with the new one – elder – are revised here. They should be able to recognise the leaf of each one and associate the seed/berry/nut with each one.

Elder 2

Fieldtrip

Revision: This fieldtrip is to revise the trees they know. They should be able to recognise all the main trees in a normal Irish hedgerow by now. Collecting a leaf specimen adds to their record in class.

Finding creepy-crawlies: Shaking a branch of each tree in turn gives a haul of creepy-crawlies in the upturned umbrella. Best results are found on warm sunny days in June and September. Holly trees will have fewer creepy-crawlies than oak, hawthorn or elder as the hard spiny leaves are more difficult to eat.

Badger 1

Worksheet in two sections

Names: Badgers live in setts, foxes in dens or in an earth, otters in holts, rats in holes and rabbits in burrows. Tunnels are not homes for any animal.

Accurate Drawing: Show the picture of the badger to the pupils and ask them to make a scientifically accurate of it.

Badger 2

Worksheet in two sections

Food: This worksheet focuses on what badgers eat and scientific deduction. Frog spawn is only around in Spring so Latrine 2 therefore must have been investigated in Spring. Similarly, blackberries and acorns are autumn fruits. Wheat grows in cultivated fields and leather jacket grubs are pests of wheat roots and are dug up by badgers. Hamburgers and dog food are provided by humans so Latrine 4 must be near town.

Food Chains: Badgers are omnivores and consume a wide variety of food, as can be seen from the first part of the exercise, so there is great scope in drawing up food chains. Badgers are not eaten by anything.

Heron 1

Worksheet in three sections

Introduction to the bird: Show the picture of the bird to the pupils so they can colour in the drawing accurately.

Unscamble the words: An English exercise that improves their wildlife knowledge – the words are FROG, EEL, RAT, MOUSE, FISH and BEETLE.

Foodchain: Pupils now have lots of scope for a foodchain with the heron on the top but make sure they put in what the prey eats too, i.e., HERON – FROG – FLY – PLANT SAP

Heron 2

Worksheet

Revision: Pupils are asked to recognise the six birds they now know from the outline drawings. The answers to all the questions are in the teachers' handbook so it is revision for the teacher too.

Butterfly 1

Worksheet in two sections

Introduction to an insect: Insects have three parts to their bodies – a head, a thorax or middle bit to which the legs and wings are attached and an abdomen. They have 2 eyes, 2 antennae and a long tongue. Pupils should learn these component parts from the first exercise.

Revision: Some of the other creepy-crawlies the pupils have learned are not insects. So, spiders have only 2 parts to their bodies and carry all eight legs on their heads; woodlice have 14 legs; and bumble bees (which are insects) have 4 wings.

Butterfly 2

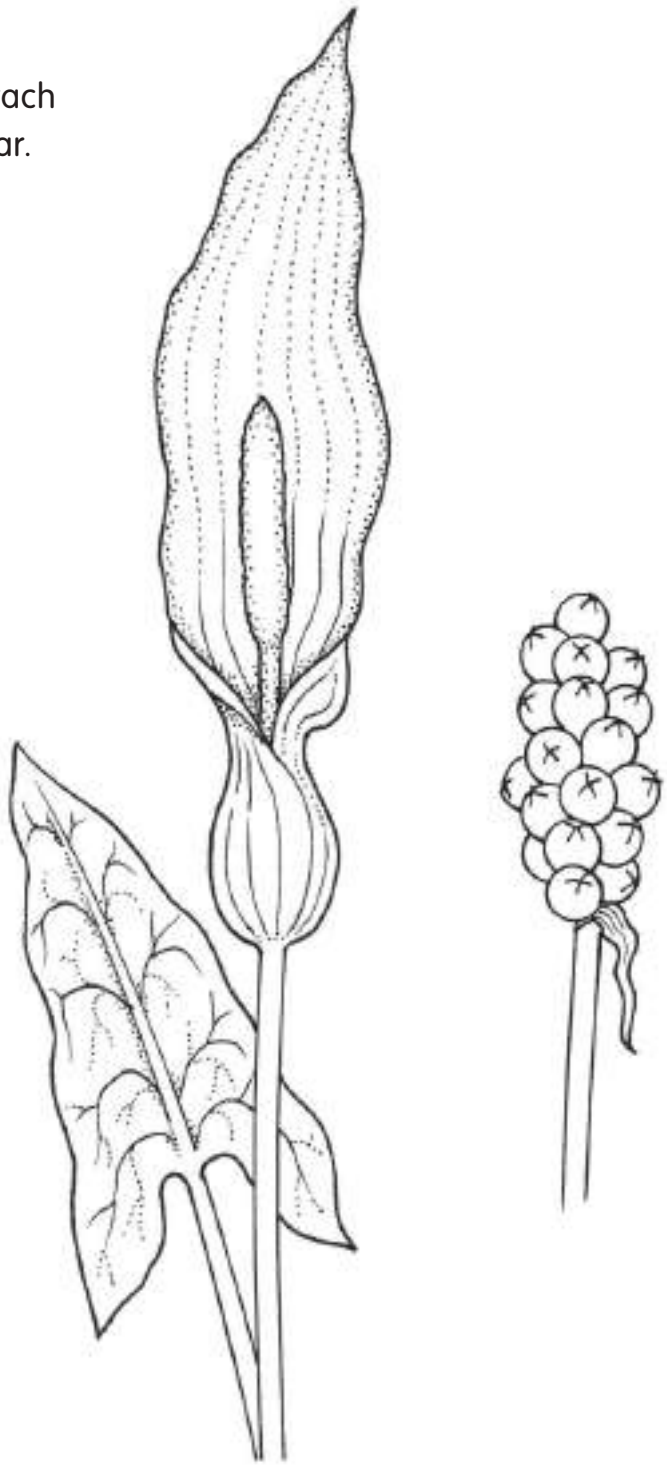
Fieldtrip

Looking for butterflies: If the school has very few butterfly nets, much can still be learned by observation. Encourage this very important scientific skill.

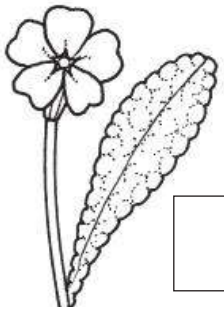
Caterpillar Game: This game is to illustrate how difficult it is to see green things on green grass. Pupils will easily find the red and white pasta – just as birds would easily find red or white caterpillars. It is much harder to find the green pasta and it takes longer so the pupils at the end of the lines will have fewer pasta pieces because only green ones are left. So being green is good for survival.

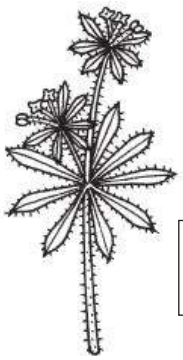
Dathaigh

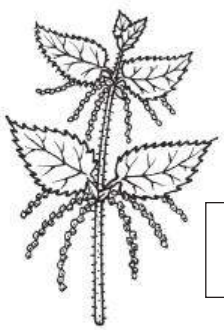
Bíonn an planda seo faoi bhláth san Earrach agus bíonn caora dearga air san Fhómhar. Dathaigh an dá phictiúr.



Fásann an Chluas Chaoin sa chlaí agus sa choill san Earrach. Bíonn sí faoi bhláth i mí Aibreáin nó go luath i mí na Bealtaine. Fásann na bláthanna seo a leanas san fhál freisin agus bíonn siad faoi bhláth ag an am céanna. An féidir leat gach ceann a ainmniú?

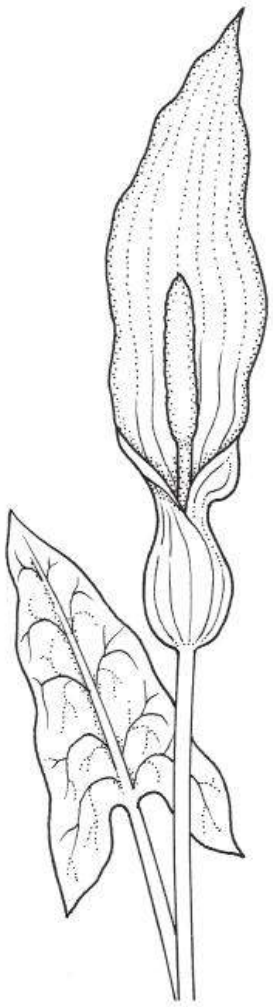






Cén fáth a mbíonn na bláthanna seo go léir le feiceáil san Earrach roimh theacht na nduilleog ar na crainn?

Turas Allamuigh



Beidh sé i gceist le turas allamuigh mhí Aibreáin an planda faoi bhláth a aimsiú.

Mealann an planda seo cuileoga toisc go síleann siad gur boladh feola lofa é an boladh a thagann amach as an ngas. Ní féidir le gach daoine áfach an boladh seo a bhraith.

Brúigh gas an bhlátha idir do mhéara agus faigh an boladh.

An mbraitheann tú boladh feola lofa ón ngas? ☐ Sea ☐ Ní

Cé mhéad dalta atá i do rang? _____

Cé mhéad acu a bhraitheann boladh feola lofa? _____

Is féidir leis na cuileoga é a bhraith agus téann siad isteach sa bhláth ag lorg an bhia atá ann, dar leo. Oscail an bláth agus féach an bhfuil aon chuileoga istigh ann.

An dáta a d'oscail tú an bláth:_____

An raibh aon chuileoga i láthair? ☐ Bhí ☐ Ní raibh

I mí Mheán Fómhair, bíonn gas le caora ar a bharr ar na plandaí seo.

Itheann na héin na caora agus fásann plandaí nua as síolta na gcaor a bhíonn i bhfearadh na n-éan.

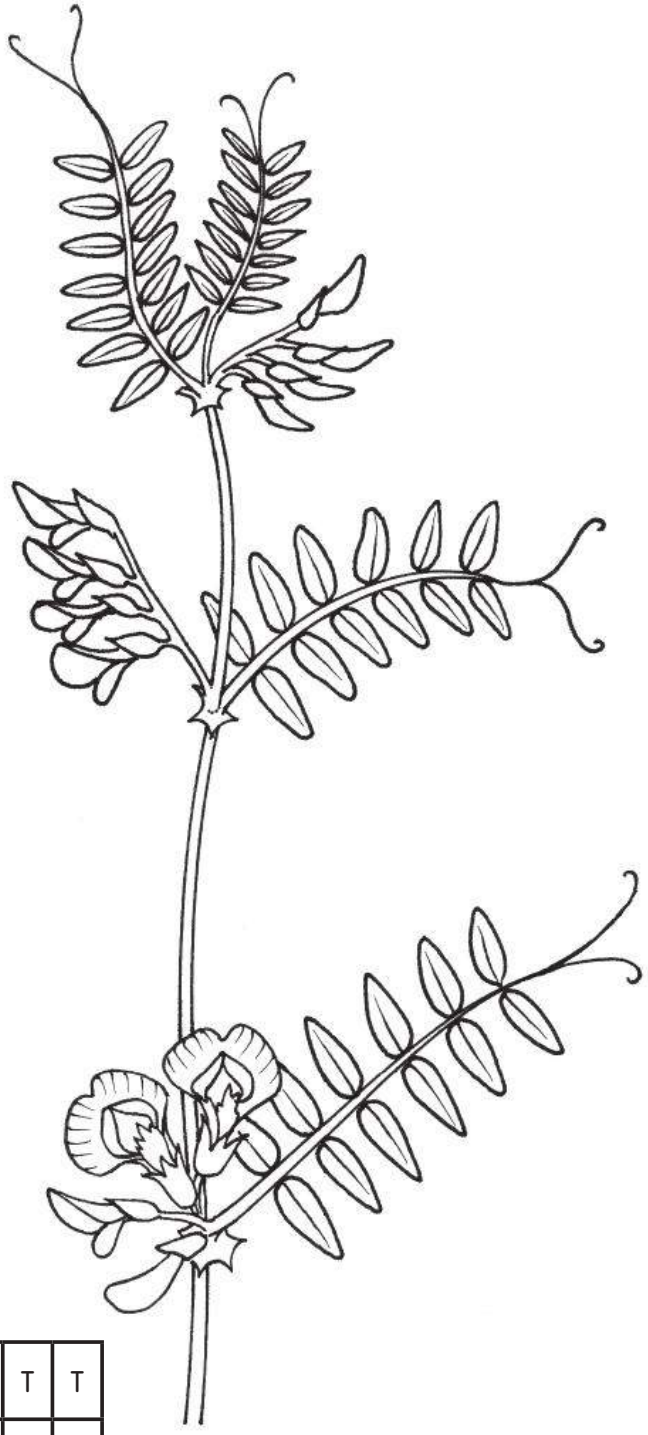
TÁ NA CAORA SEO NIMHIÚIL DO DHAOINE.

Chonaic muid caora na Cluaise Caoine nuair a bhí muid ar ár dturas allamuigh an _____ (dáta).

Dathaigh an pictiúr agus marcáil na codanna

Fásann an Pheasair Chapaill sna fálta. Ní bhíonn dóthain solais ag bun an fháil le gur féidir leis na plandaí fás i gceart, mar sin fásann siad aníos i dtreo an tsolais agus is leis na teannóga a bhíonn ag bun na nduilleog a ngreamaíonn siad iad féin de phlandaí eile.

Scrúdaigh an léaráid. Marcáil na bláthanna, na duilleoga agus na teannóga. Leis na dathanna cearta, dathaigh an planda.



Is ball d'fhine na bpiseanna í an Pheasair Chapaill. Aimsigh na focail go léir seo a leanas sa chuardach focal thíos. Is féidir leo bheith cothrománach, ceartingearach, trasnánach nó ag dul siar in aon cheann de na treonna sin.

G	C	L	R	O	I	D	I	H	N	N	S	N	T	T
L	L	I	A	P	A	H	C	R	I	A	S	A	E	P
R	I	I	F	A	I	G	H	N	E	O	G	Ó	A	G
Í	P	R	A	R	C	S	D	U	I	L	L	Í	N	S
L	G	F	L	C	S	A	H	U	Á	S	O	I	N	T
S	A	U	A	R	G	R	I	F	O	E	L	L	Ó	L
Á	A	Ó	A	O	C	A	N	Ó	I	I	N	G	G	A
H	E	P	E	C	E	G	T	N	L	D	R	A	A	O

CNUASACH FOCAL

PEASAIR CHAPAILL
FAIGHNEOG
PIS
CORCRA
TEANNÓG
FÁL
DUILLÍN

Turas Allamuigh

Turas allamuigh i mí na Bealtaine/i mí an Mheithimh chun bláthanna san fhál a aimsiú.

Ba cheart go bhfaighidh tú bláthanna san fhál atá ar eolas agat cheana féin. Bailigh duilleog agus bláth amháin ó gach cineál blátha agus greamaigh iad sna spásanna atá in aice leis na hainmneacha:

PEASAIR CHAPAILL

CLOIGÍN GORM

CLUAS CHAOIN

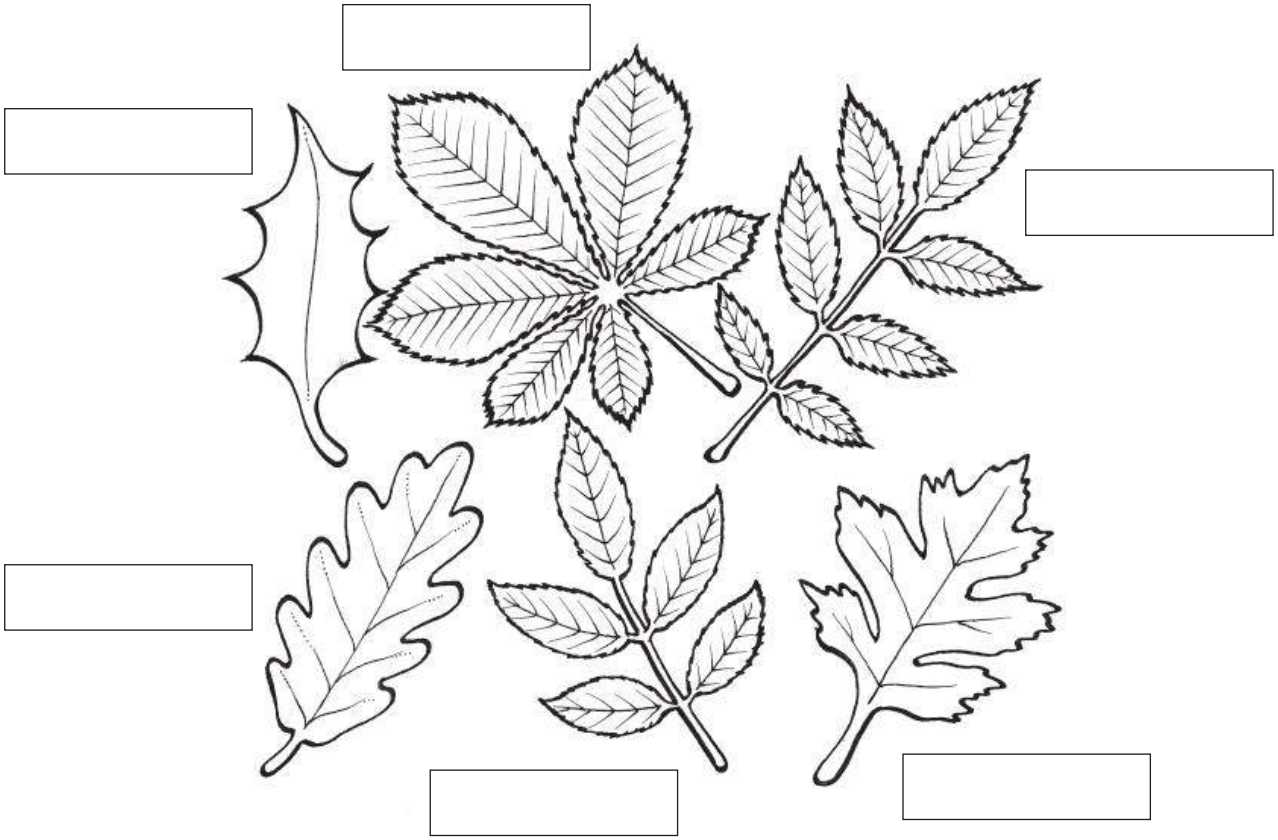
GARBHLUS

SABHAIRCÍN

NEANTÓG

Déan Sainaithint Ar

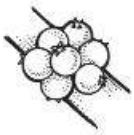
Tá an trom coitianta go maith sna fálta. Is féidir leat é a shainaithint trí na duilleoga a scagadh. Ní bhíonn ach 5 dhuillín ar gach duilleog. Féach ar na duilleoga seo a leanas. Tá siad ar eolas agat cheana féin. Ainmnigh gach ceann acu.



Crainn nua as na síolta – uaireanta ciallaíonn 'síol' cnó ar bith nó croí caora. Ainmnigh iad seo a leanas agus abair cén crann a fhásann astu.

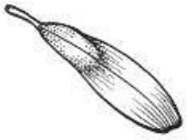
Ainm _____

Crann _____



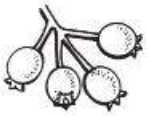
Ainm _____

Crann _____



Ainm _____

Crann _____

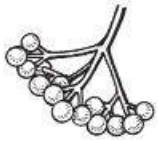


Ainm _____

Crann _____

Ainm _____

Crann _____



Ainm _____

Crann _____

_____ _____ _____ Is caora iad.

_____ _____ Is cnónna iad.

_____ síolta gaothshéidte iad.

AN RAIBH A FHIOS AGAT?

Itheann na héin caora agus tagann na síolta crua a bhíonn istigh sna caora sin amach i salachar na n-éan. Fásann crainn nua as na síolta seo.

Turas Allamuigh chuig fál

Tá an fál is gaire don seomra ranga i gceist leis an turas allamuigh seo le haghaidh staidéar a dhéanamh ar na crainn san fhál.

Beidh scáth fearthainne, pútar agus roinnt prócaí de dhíth ar gach grúpa.

Agus tú ag an bhfál, aimsigh na crainn atá ar aithne agat agus bailigh duilleog ó gach ceann acu. Beir ar ais go dtí an seomra ranga iad agus ainmnigh gach ceann acu.

Is ar an _____ a bhí an chuid is mó feithidí lámhacáin.

An raibh na feithidí céanna ar gach crann?

Bhí _____ ar gach crann.

Ní raibh _____ ach ar _____ chrann/ar chrann amháin.

Cuardach Focal

Is i bpoll faoin talamh a bhfuil ainm ar leith aige a dhéanann an Broc a áit chónaithe. Tá go leor focal sa chuardach focal a gcuirtear poill faoin talamh in iúl leo. Aimsigh iad go léir agus aibhsigh an focal a chiallaíonn áit chónaithe an bhroic.

C	A	B	N	L	S	B
Á	C	R	L	L	P	Á
A	T	O	L	L	Á	N
P	P	C	U	A	L	A
S	I	A	H	C	A	U
T	I	C	L	R	I	I
S	I	H	L	É	A	L

CNUASACH FOCAL

POLL	TOLLÁN
UACHAIS	PLUAIS
CRÉ	BROCACH

Féach ar phictiúr an bhroic. Tarraing pictiúr cruinn de bhroc anseo.

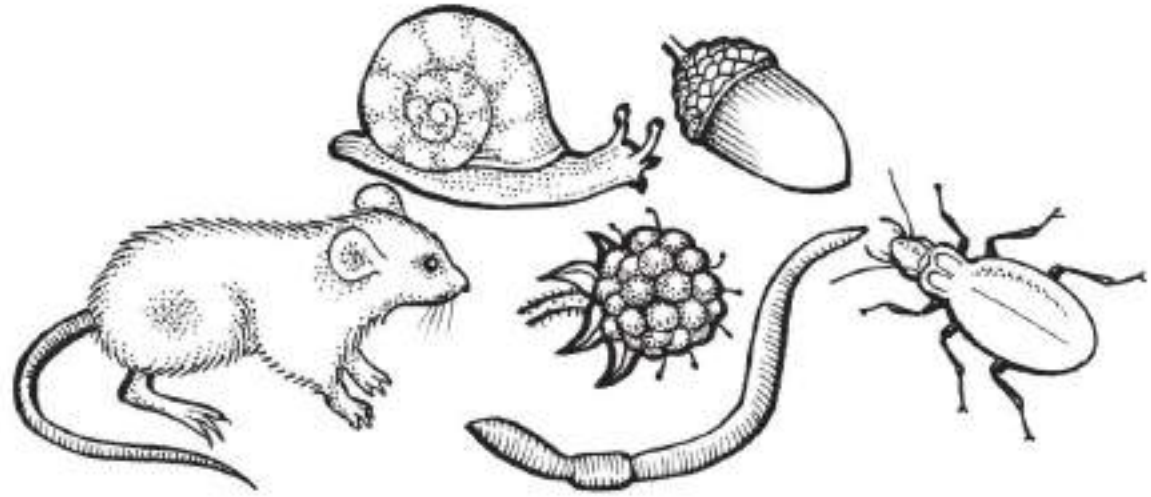
Cá bhfios dúinn cad é an bia a itheann an broc?

AN RAIBH A FHIOS AGAT?

Scrúdaíonn eolaithe salachar an bhroic le fáil amach cén bia a itheann sé. Tá sé éasca é seo a dhéanamh mar úsáideann na broic go léir an áit speisialta chéanna, gar don mbrocach, mar leithreas. Losán na mbroc a thugtar ar an áit seo.

Uair amháin rinne Zó-eolaithe, sé sin eolaithe ainmhithe scrúdú ar an salachar as ceithre lósán difriúla ag tráthanna difriúla den bhliain agus seo a gcuid torthaí:

Losán 1	Losán 2	Losán 3	Losán 4
Gruaig ó phéisteanna talún	Cnámha droime gráinneog	Síolta sméara dubha	Fionnadh Coinín
Gráinní cruithneachta	Cnámha francach	Sliogáin seilide	Ribíní gruaige de phéisteanna talún
Craiceannn casóg leathair	Glóthach as glóthach froig	Blaoscanna Dearcán	Cnámha luchóg
Fungais	Fuílleach drúchtíní	Dromanna ciaróg	Bia do mhadraí as cannaí agus Burgar mairteola



Scrúdaigh na torthaí seo go mion agus freagair na ceisteanna seo a leanas:

Cén losán a scrúdaíodh san Fhómhar? _____

Cén losán a bhí gar do bhaile mór? _____

Cén losán a scrúdaíodh san Earrach? _____

Cén ceann a bhí gar do ghort treafa a raibh barraí ag fás ann? _____

Cén bia a bhí ann cúpla uair? _____

I bhur gcóipleabhair, tarraing trí chineál slabhra bia do na broic.

Dathaigh

Is lapaire mór d'éan é an Corr Réisc agus caitheann sé cuid mhaith ama ar bhruach na habhann, ar bhruach an locháin agus ar bhruach an locha.
Dathaigh an pictiúr leis na dathanna cearta.
Féach ar phictiúir an chorr réisc le go mbeidh na dathanna cearta agat.

Is feoiliteoir é an corr réisc. Seo liosta de na bianna difriúla a itheann sé – tá an litriú bun os cionn. An féidir leat an leagan ceart a scríobh maidir le gach ceann?

GRFO _____ SICA _____

GHLÓCU _____ CRAHFNAC _____

CASENAN _____ RICAÓG _____

Déan slabhra bia don chorr réisc.

Corr Réisc		

Ag dul siar ar na héin

Is iad seo na héin a bhfuair tú an eolas fúthu cheana féin.
Ainmnigh gach éan.

Cén dá cheann acu a mhaireann ar an uisce nó gar dó?

_____ _____

Níl ach dhá uiliteoir ina measc. Cé hiad?

_____ _____

Tá dhá luibhiteoir ann (a itheann plandaí amháin). Cé hiad?

_____ _____

Tá dhá cheann ina measc nach dtógann nead i gcrann riamh. Cé acu?

_____ _____

Ainmnigh an t-éan nach bhfuil an ceann fireann agus an ceann baineann daite mar an gcéanna? _____

Cé acu a théann ar imirce don gheimhreadh? _____

Cé acu ar a bhfuil an t-ainm Máire Fhada i nGaeilge? _____

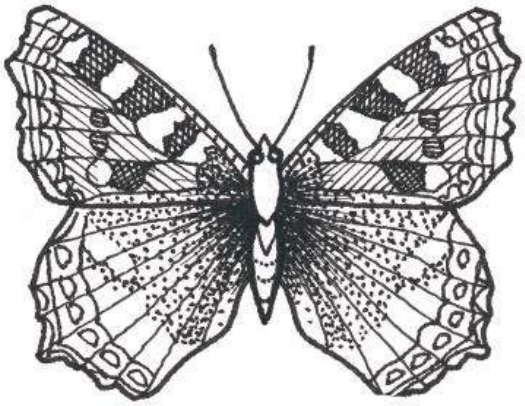
Cad chuige a bhfuil an t-ainm sin ar an éan, meas tú? _____

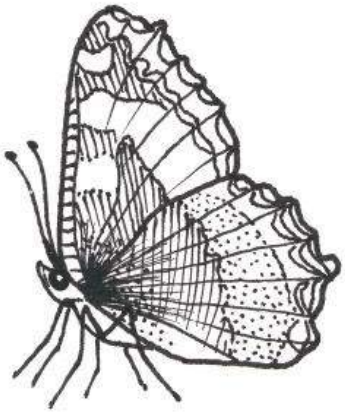
Cén ceann is fearr leat? _____

Cad chuige? _____

Líon isteach na bearnaí

Is feithid é an féileacán a bhfuil gnáth-chorp feithide aige. Féach ar an trí learáid den fhéileacán thíos agus freagair na ceisteanna seo a leanas. Tá na focail le haghaidh na bhfreagraí sa chuardach focal.





Ainmnigh 3 rud a bhíonn ar cheann an fhéileacáin.

_____ _____ _____

Cé mhéad cos a bhíonn ag féileacán? _____

Cé mhéad sciathán a bhíonn aige? _____

Bíonn corp an fhéileacáin ina _____ chuid/ chodanna.

Ainmnigh gach cuid den chorp _____

_____

CNUASACH FOCAL

CEANN TRÍ SÉ CEITHRE TÓRACS

BOLG AERÓG SÚILE TEANGA

AG DUL SIAR

Cé mhéad cos a bhíonn ag damhán alla?

_____

Cé mhéad codanna a bhíonn i gcorp an damháin alla?

_____

Bíonn a chosa go léir ar _____ an damháin alla.

Cé mhéad cos a bhíonn ag cláirseach?

_____

Cé mhéad sciathán a bhíonn ag bumbóg?

_____

Turas Allamuigh

Is ar laethanta ciúna, tirime grianmhara gan gaoth ar bith is fearr a eitlíonn an féileacán. Roghnaigh lá mar sin i mí na Bealtaine, i mí an Mheithimh nó i mí Mheán Fómhair chun féileacáin a chuardach. Beidh eangaí agus próca de dhíth ort.

Tugann na féileacáin cuairt ar na bláthanna.

Chonaic muid _____ féileacáin ag tabhairt cuairte ar bhláthanna.

Cad iad na bláthanna ar a thug siad cuairt?_____

Eitlíonn féileacáin san aer.

Chonaic muid _____ féileacáin san aer. Rug muid ar _____ féileacáin.

CÉN FÁTH A mBÍONN DATH GLAS AR BHOILB? SEO CLUICHE a imrítear lasmuigh.

Beidh trí mhála de chruthanna pasta de dhíth ort – ceann le pasta dearg, ceann le pasta glas agus ceann le pasta bán.

Roinn an rang ina dhá fhoireann.

Scaip a bhfuil sa trí mhála in áit fhéarach. Is iad an rang na héin agus is iad na píosaí pasta na boilb.

Tá sé éasca an pasta bán agus an pasta dearg a fheiceáil ar an bhféar glas agus tá sé éasca breith orthu.

Nuair a deirtear 'gabh ar aghaidh', ritheann dalta amháin as gach foireann ar luas lasrach chun an oiread pasta agus is féidir a bhailiú fad is a chomhaireann an chuid eile den rang suas go dtí a deich. Coinnítear an méid a bhailítear. Déanann an chéad bheirt eile amhlaidh le linn comhairimh go dtí a deich agus mar sin de go dtí go mbíonn a bhabhta faighte ag gach duine. Comhaireann gach dalta an méid de gach dath a bhailíonn sé.

Imreoir	PASTA BÁN		PASTA GLAS		PASTA DEARG	
	Foireann 1	Foireann 2	Foireann 1	Foireann 2	Foireann 1	Foireann 2
1ú						
2ú						
3ú						
4ú, srl						
IOMLÁN						

Cén dalta a bhailigh an chuid is mó agus cén dalta a bhailigh an chuid is lú? Cad chuige? Ar aimsíodh na píosaí glasa go léir? Tar éis dúinn seo é a dhéanamh cad is féidir linn a rá faoi bhoilb agus faoi dhuaithníocht?

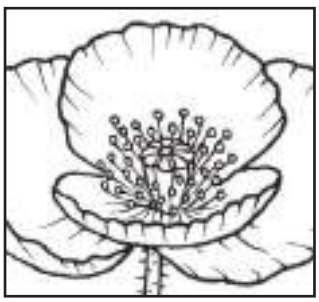
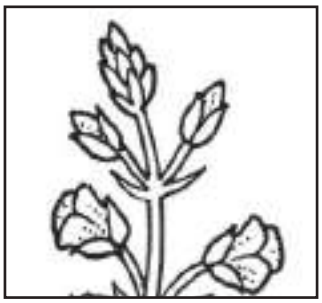
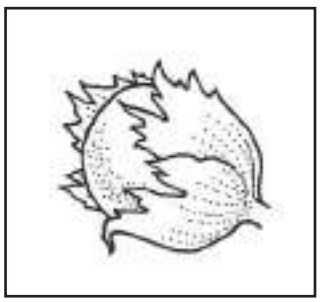
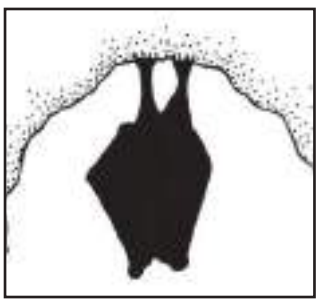
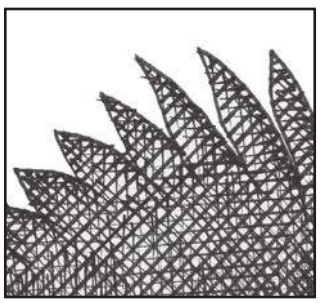
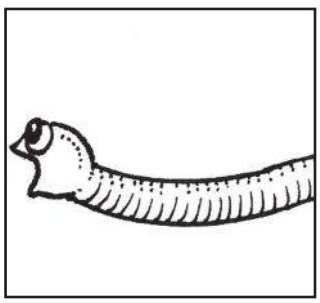
Introduction to 5th Class Worksheets

Caithleach dearg	**Poppy**
Lus cré	**Speedwell**
Coll	**Hazel**
Ialtóg	**Bat**
Pocaire gaoithe	**Kestrel**
Péist talún	**Earthworm**

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species. The worksheets, which need not necessarily be done in the order in which they are given, are designed to be photocopied and handed out to the pupils.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly and return any animals collected to the wild.

There is also an emphasis on pupils finding information out for themselves by use of books and by using the internet. By fifth class, pupils should be encouraged to do some researching for themselves and using the information found to answer the questions posed.

5th Class Teacher Notes

Poppy 1
Worksheet in two sections

Introduction to plant:
Pupils colour in the poppy drawn, having seen the picture provided with this pack.

Research:
Red flowers such as roses and tulips are deliberately bred in this colour by gardeners – they are not naturally occurring red flowers. The scarlet pimpernel is probably the only other truly red wild Irish flower. Ladybirds, soldier beetles and cinnabar, burnet and garden tiger moths are all red insects. The poem 'In Flanders Fields' by John McCrae is another research opportunity for the pupils.

Poppy 2
Fieldtrip (Do this in May or early June)

Ability to find plants:
The poppy plant grows on disturbed soil. This is because it doesn't compete well with grass and will only grow on bare soil before other plants become established.

Establishing an area for poppies:
This involves making an area of bare soil and indeed impoverishing the soil by adding sand or gravel. A fifth class which cannot find poppies can start the process of making bare soil but the poppies may not appear until the following year. So planting a wild flower mix containing poppies is also worthy of consideration.

Medicinal use:
Extraction of narcotics from poppies. More opportunity for theoretical (but not practical) research by pupils.

Speedwell 1
Worksheet in three sections

Introduction to flower:
Via drawing and the supplied picture

Observational skills:
Careful observation of the plant makes it easier to find them later, when on the fieldtrip.

Revision:
This is a revision of six other grassland plants pupils have learned in school.

Speedwell 2
Fieldtrip

Qualitative study:
Here the pupils are carrying out a comparative qualitative study of the effects of two particular types of grassland management on flowers. Choose an un-mown piece of lawn or field and a mown piece. The un-mown piece should have more speedwell and buttercup, whereas the rosette plants such as daisy, dandelion and ribwort will survive being mown as their growing point is buried in the rosette of leaves. Grass, of course, grows well in both.

Accurate drawing:
The drawing they make from the speedwell they collect should be scientifically correct – right number of petals, shape and position of leaves on flower stem.

Hazel Tree 1
Worksheet

Life cycle study:
This sheet can be given to pupils in September. Catkins in February, leaves in April and nuts in September are food for squirrels, mice, jays and rooks, NONE of which hibernate but eat their stores all winter long. New trees germinate from uneaten nuts; the leaves fall off in October and only buds are to be seen in December and January.

Hazel Tree 2
Fieldtrip

First fieldtrip in September should establish if hazel trees grow in the vicinity of the school. If not, a hazel tree should be planted on tree day in October. The Parks Department of the Local Authority may be in a position to provide a tree but they are not expensive to buy either. If a growing tree is found near to the school, all the stages of the lifecycle shown on the last worksheet can be checked out. In subsequent years, this will be possible with the newly planted tree. It is important to bring the pupils to see catkins in February – these are wind-pollinated flowers.

Hedge layers:
This is an opportunity to examine the structure of a hedge. This needs to be done in September and again in April. Even if the names of the plants present are not known, it will be possible to demonstrate the layers and show the difference in Spring. The Teacher should keep the September worksheets for comparison with the Spring ones. Hand out the same worksheet again in April.

Bat 1

Worksheet in two sections

Research:
Another opportunity for the pupils to go on the website given and find out about the bat species.

Identification:
The five bats outlined are described in the questions below so it is an exercise in observation and deduction; similarly with filling in the details of the long-eared bat.

Bat 2

Worksheet in two sections

Bat food:
If they only eat flying insects, then choosing those on the list which can fly at night gives the answer, *i.e.,* mayflies, midges, moths, mosquitoes and daddy longlegs. Bats don't eat bees.

Interpretation of scientific Information:
A bat lifecycle is succinctly given in the table. This is an exercise in accurate scientific writing, not a short story!

Kestrel 1

Worksheet in two sections

Mammal research:
Pupils find out about each small mammal on the list. The National Parks and Wildlife Service www.NPWS.ie is a good site to start with. Mice, rats and pygmy shrews are common and widespread, bank voles and white-toothed shrews are confined to particular counties. There are no other species of small mammals in Ireland – no dormice or moles or water voles. Mice and rats are pests.

Other birds of prey:
Sparrow Hawk, Peregrine Falcon, Merlin, Hen Harrier, Marsh Harrier, Buzzard. The Golden Eagle, the white-tailed Sea Eagle and the Kite have all been recently re-introduced.

Kestrel 2

Worksheet

Binocular vision:
This worksheets gets the pupils to experiment with using their eyes separately and together. Lining up an outstretched finger with a line on the board can only be done with one eye at a time. Using both eyes together means focusing on the finger or the line but not both together. Swans and other birds who use both eyes independently have a much wider field of vision to look out for predators.

Earthworm 1

Worksheet in two sections

Setting up a wormery:
A large clear container is essential to see what the worms are doing. Darkness is essential or the worms move to the centre and can't be seen, so do not leave the wormery uncovered for long.

Finding worms:
If all fruit fails, the worms can be cajoled to the surface by pouring soapy water over the area, although this is disliked by worms and leaves their habitat unusable for some time. The method described on the worksheet mimics the effect of heavy rain – altogether a more natural way of collecting worms.

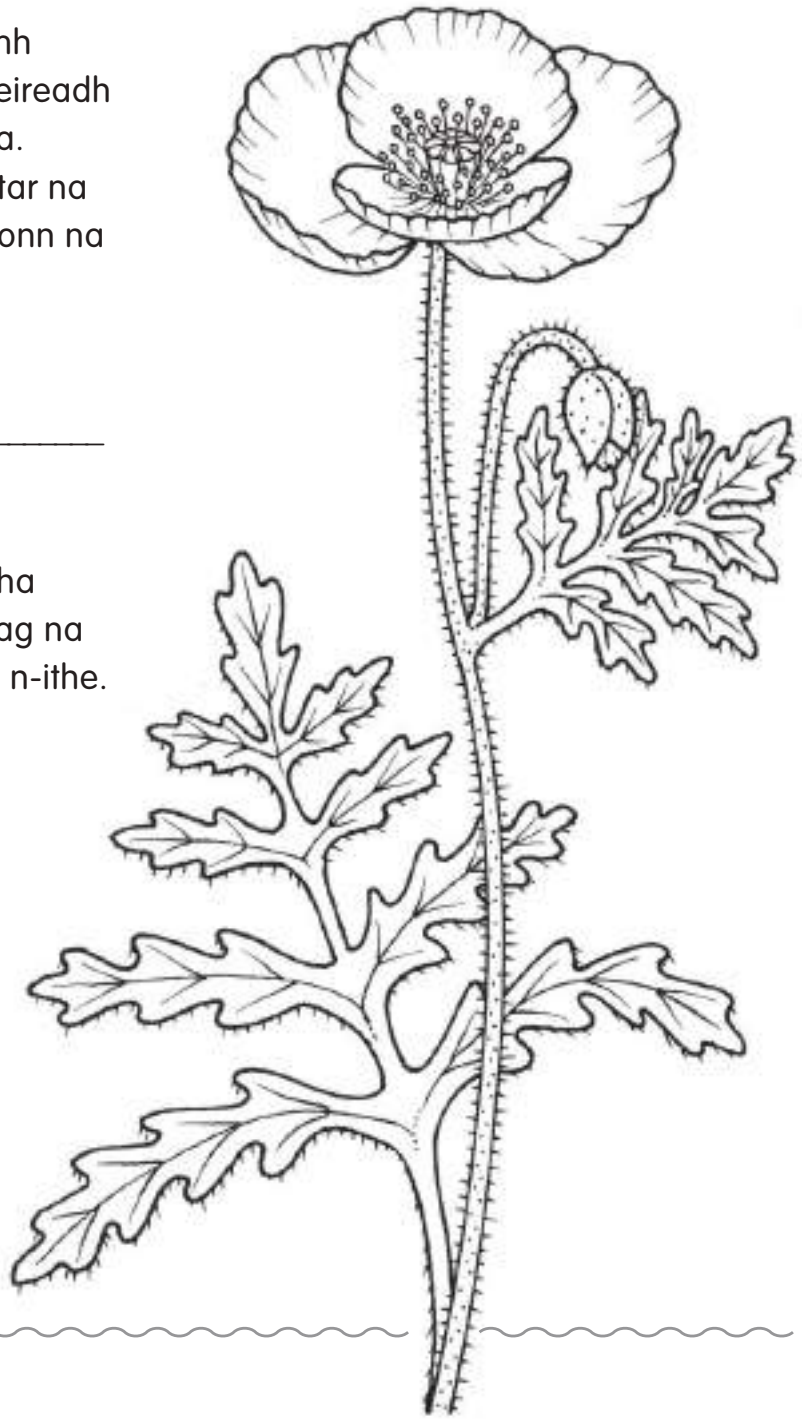
Earthworm 2

Worksheet

Identifying common worms:
This worksheet encourages pupils to look for Tiger Worms and Angler Worms. Compost bins are a good place to look for Tiger Worms while Angler Worms may be found under dead plant material.

Dathaigh

Fásann an Caithleach Dearg ar thalamh a corraíodh nó ar thalamh tocailte. Bíonn sí faoi bhláth ó dheireadh mhí na Bealtaine go dtí mí Lúnasa. Breathnaigh thart timpeall cheantar na scoile le fáil amach cá háit a mbíonn na caithleacha dearga ag fás.



Fásann caithleacha dearga

_____

Dathaigh an Caithleach Dearg.

Bíonn dath dearg ar na caithleacha dearga ionas go mbeidh a fhios ag na creachadóirí nár mhaith an rud a n-ithe.

Ar an ábhar céanna bíonn dath dearg ar bhláthanna fiáine eile agus ar chuid feithidí.

Ainmnigh bláth fiáin eile a bhfuil an dath dearg air:

_____

Ainmnigh feithid dhearg:

_____

FAIGH AN TEOLAS:

Aimsigh an dán a thosaíonn le:

"In Flanders fields the poppies grow / Between the crosses row on row"

Cad a tharla ar bhánta Flanders? _____

Cad is cúis leis na crosa atá ansin? _____

Cén fáth a d'fhás na caithleacha dearga ansin? _____

Caitheann daoine caithleacha dearga sa lá atá inniu ann chun rud a tharla fadó a chomóradh. Cad a tharla? _____

Turas Allamuigh

Bíonn caithleacha dearga i gceantair inar corraíodh an chré.

An bhfuil caithleacha dearga ag fás mar fhiailí i ngairdín na scoile? _____

An bhfuil caithleacha dearga in aon áit cois bóthair ar corraíodh an chré inti? _____

Nach bhfuil caithleach dearg ar bith gar do do scoilse? _____

LE DÉANAMH:

Déan suíomh ar thailte na scoile le go bhféadfaidh caithleacha dearga fás ansin.

Cruthaigh plean don suíomh. *(Leid duit: Is féidir le síolta na caithlí deirge maireachtáil ar feadh daichead bliain i gcré nach gcorraítear lena linn.)*

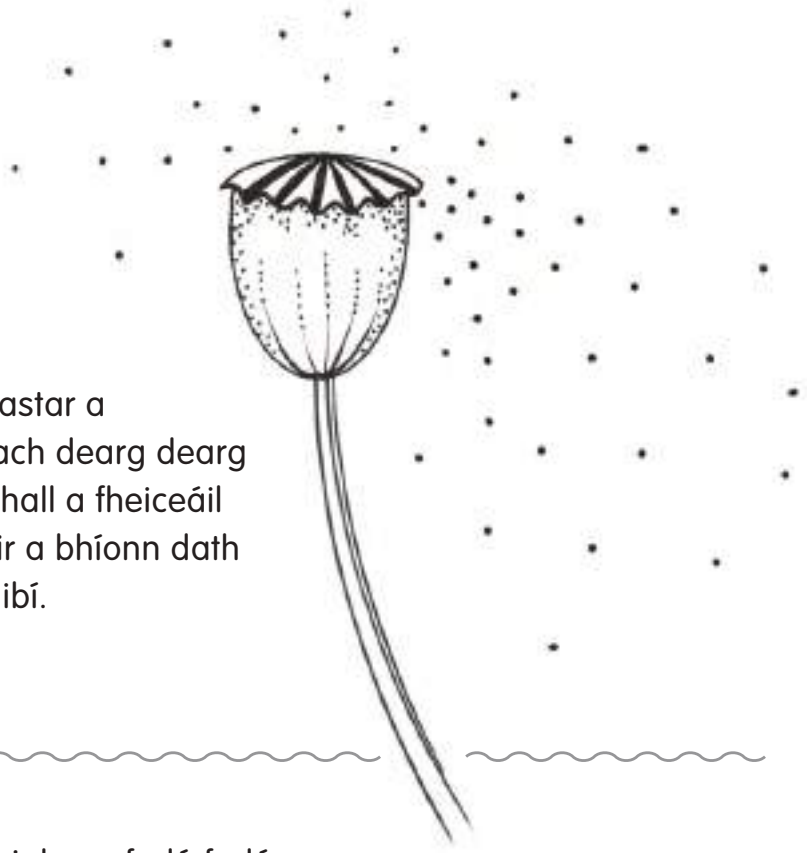
_____

_____

_____

_____

_____



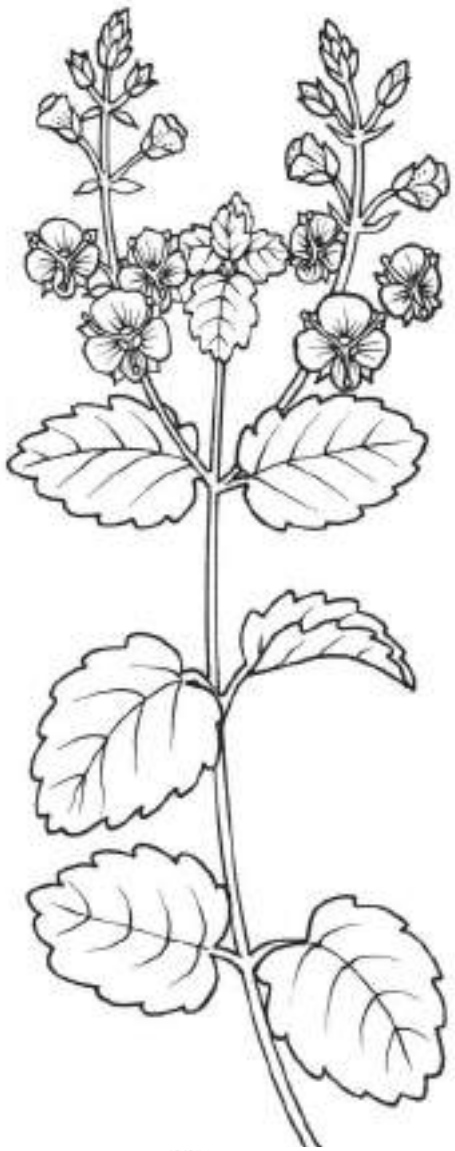
Is i gcochail atá cosúil le ceanastar a iompraítear síolta na gcaithleach dearg dearg ar an bplanda. Is féidir an cochall a fheiceáil tar éis thitim na bpeiteal. Nuair a bhíonn dath dubh ar na síolta bíonn siad aibí.

FAIGH AN tEOLAS:

D'úsáidtí caithleacha dearga mar leigheas fadó fadó.
Aimsigh cén fáth a d' úsáidtí iad.

Dathaigh an pictiúr agus lion isteach na bearnaí

Fásann an Lus cré i dtalamh féaraigh nár baineadh. Féach ar an bpictiúr a thaispeáin do mhúinteoir duit agus dathaigh an bláth thíos.



Ce mhéad peiteal a bhíonn ag Lus cré amháin? _____

An bhfuil an tomhas céanna acu go léir?

_____

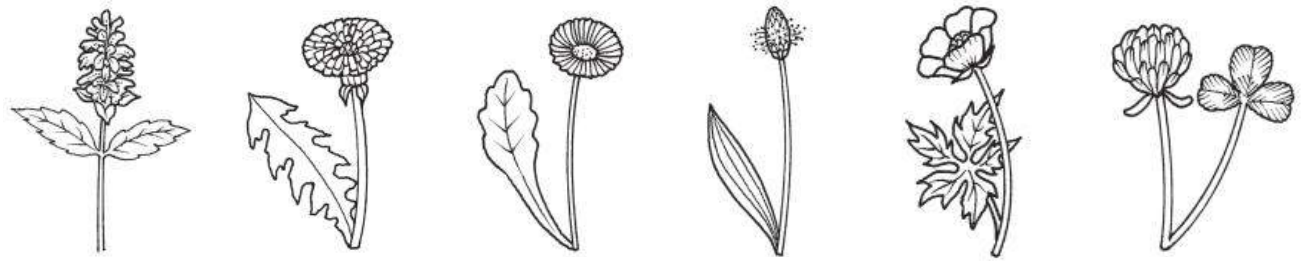
Cad é suíomh na duilleog ar an ngas?

_____

An osclaíonn na bláthanna ar dtús ag barr nó ag bun an phlanda?

_____

Is bláth é an Lus cré a bhíonn ag fás ar thalamh féaraigh. Tá na bláthanna go léir thíos mar an gcéanna. Ainmnigh gach ceann acu.



AG DUL SIAR

Bíonn peitil bhuí ag _____ agus ag _____.

Bíonn peitil bhána ag _____ agus ag _____.

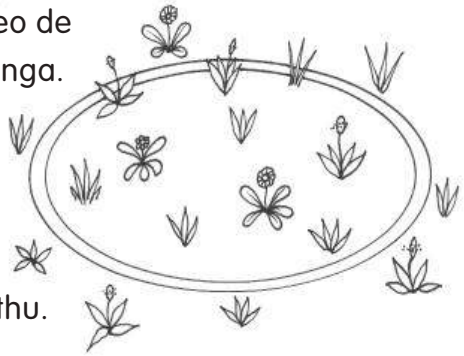
Bíonn peitil chorcra ag an _____.

Ní bhíonn aon pheitil ag an _____; pailnítear é/í ar an ngaoth.

Bíonn dath _____ ar pheitil an Luis cré.

An Turas Allamuigh

Téigh amach go dtí clós na scoile chun lus cré a lorg. Bíonn sí faoi bhláth i mí na Bealtaine agus i mí an Mheithimh. Beidh na rudaí seo de dhíth ort:fonsa nó ceathramhán le haghaidh gach grúpa ranga.



LE DÉANAMH:
Aimsigh píosa de thalamh féaraigh nár baineadh. Cuir an fonsa ar an talamh agus déan liosta de na bláthanna go léir atá taobh istigh den fhonsa agus a bhfuil eolas agat orthu.

Liosta na mbláthanna a bhí san fhonsa ar leagadh síos ar fhéar nár baineadh:

_____

_____

_____

_____

Anois aimsigh talamh féaraigh a baineadh go rialta. Leag an fonsa ar an talamh anseo. Déan liosta de na bláthanna go léir atá taobh istigh den fhonsa a bhfuil eolas agat orthu.

Liosta na mbláthanna a bhí san fhonsa ar leagadh ar fhéar a baineadh:

_____

_____

_____

_____

Cad iad na plandaí a fuarthas sa dá ghrúpa? _____

Cad iad na plandaí a bhí san fhéar a baineadh agus san fhéar sin amháin?

_____

Cad iad na plandaí a bhí san fhéar nár baineadh agus san fhéar sin amháin?

_____

Cad a chuireann toradh do chuid oibre in iúl duit? _____

_____

Beir roinnt luis cré ar ais go dtí an seomra ranga agus tarraing cóip bheacht díobh.

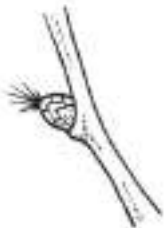
Líon isteach na bearnaí

Féach ar an bpictiúr den chrann coill atá anseo agus féach ar an léaráid.

Cnó

Craobhóg

Duilleog



Caitín Fireannach

Caitín Baineannach

I mí Feabhra agus i mí an Mhárta osclaíonn _____ ar an gcrann coill.

Is í an ghaoth a phailníonn iad.

I mí Aibreáin, osclaíonn na _____ ar an gcrann coill.

Bíonn na _____ lán-aibí go luath i mí Mheán Fómhair.

Is bia do _____ agus do _____ iad.

Cuireann na _____ i bhfolach iad le go mbeidh siad acu mar stóras bia a íosfar le linn an _____.

_____ crainn nua as na cinn nach n-itear.

I mí Dheireadh Fómhair, titeann na _____ den chrann.

I mí na Nollag agus i mí Eanáir, ní bhíonn le feiceáil ar dheireadh na gcipíní ach _____.

SAOLRÉ

Samhain, Nollaig, Eanáir	Feabhra, Márta	Aibreán
Bealtaine, Meitheamh, Iúil	Meán Fómhair	Deireadh Fómhair

Turas Allamuigh

Tá an crann coill ar cheann de na crainn a fhásann san fhál. Téigh go dtí an fál is gaire duit chun sin a dheimhniú.

An bhfuil aon chrainn choill i do fhál-sa – nó i gclós do scoil-se? _____

Muna bhfuil – cuir crann coill! Féadfaidh tú cnó coill a bhailiú agus crann óg a chur ag fás i gclós na scoile le linn Lá na gCrann i mí Dheireadh Fómhair.

Is gnáthóga maithe do phlandaí agus d'ainmhithe iad na fálta.

Tá ceithre leibhéal de bheathra plandaí agus ainmhithe san fhál. Líon isteach sonraí na gceithre leibhéal atá i do fhál-sa.

CEANNBHRAT

Is iad na crainn is airde a fhaigheann an chuid is mó solais ar a gcuid duilleoga. Is iad na crainn cheannbhrait atá inár bhfál

_____

SRAITH na dTOR

Is é comhdhéanamh na sraithe seo crainn atá níos lú agus toir agus dreapairí atá níos ísle ná na príomhchrainn Tá _____

_____

_____i sraith na dtor inár bhfál.

SRAITH na TALÚN

Seo an áit san fhál ina bhfásann na bláthanna. Ní fhaigheann siad mórán solais nuair a bhíonn na duilleoga go léir ar an gcrannbhrat agus ar shraith na dtor. I mí Mheán Fómhair, chonaiceamar _____

_____

i sraith na talún. I mí Aibreáin/ i mí na Bealtaine chonaiceamar _____

_____

_____

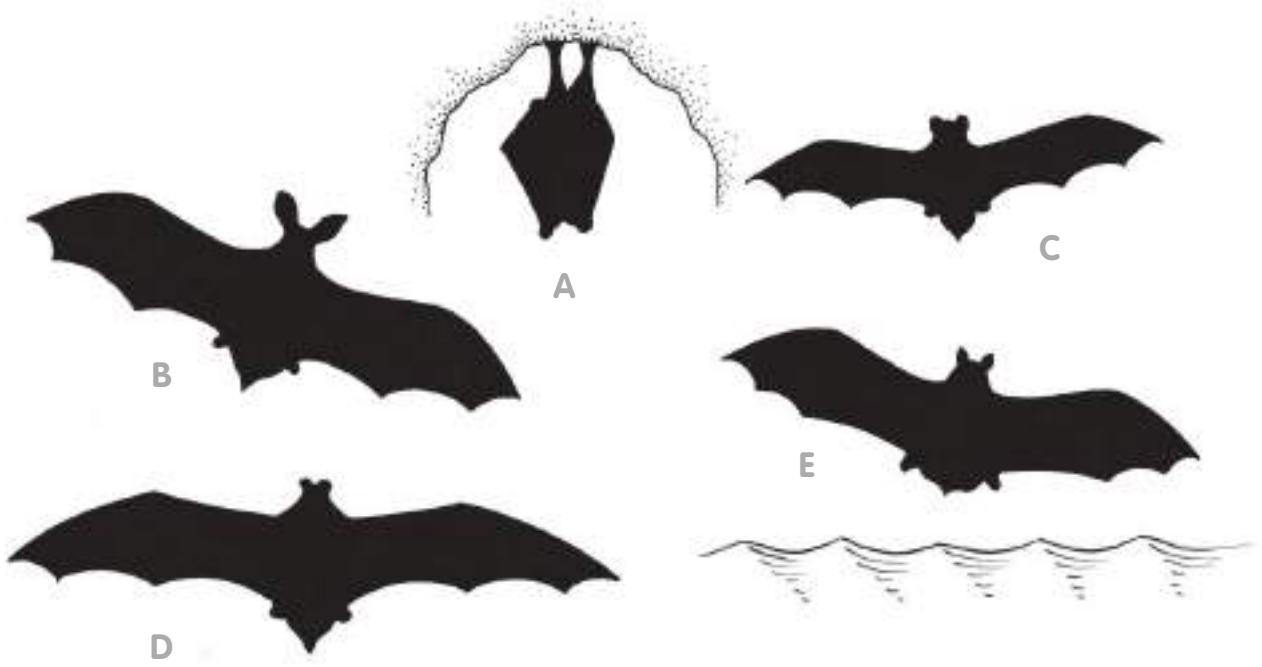
_____i sraith na talún.

FUÍLLEACH na nDUILLEOG

Séard is brí leis seo ná na duilleoga feoite go léir atá briste síos ina muirín ag na feithidí lámhacáin

Líon isteach na bearnaí

Is mamach í an ialtóg agus bíonn sí ag eitilt san oíche. Tá deich speiceas difriúil di in Éirinn. An féidir leat iad go léir a ainmniú? Is féidir leat an fhaisnéis a aimsiú ar shuíomh gréasáin Bat Conservation Ireland ag www.batconservationireland.org.



Taispeántar thuas imchruthanna dár n-ialtóga coiteanna. Scrúdaigh iad go cúramach agus ansin freagair na ceisteanna seo:

Cé acu an ialtóg Daubenton, ar a ghairmtear an ialtóg uisce freisin? _____

Cé acu an ialtóg chluasach? _____

Cé acu an speiceas a mhaireann i bpluais – an chrú-ialtóg? _____

Is í an ialtóg Leisler a bhfuil an uimhir _____ uirthi an ialtóg is mó sa tír seo.

Is iad na hialtóga feasracha na cinn is lú sa tír seo (a bhfuil trí cinn acu againn) — cé

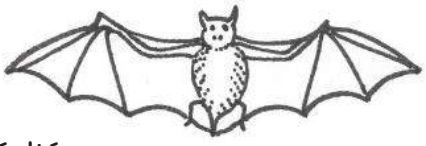
acu des na cinn a léiritear thuas is ea an ialtóg fheasrach? _____

LE DÉANAMH:

Agus an imlíne throm in úsáid agat mar mhúnla, déan an ialtóg chluasach a ath-tharraingt. Cuir lipéid ar na cluasa, ar an eireaball, ar na cosa agus ar na sciatháin.

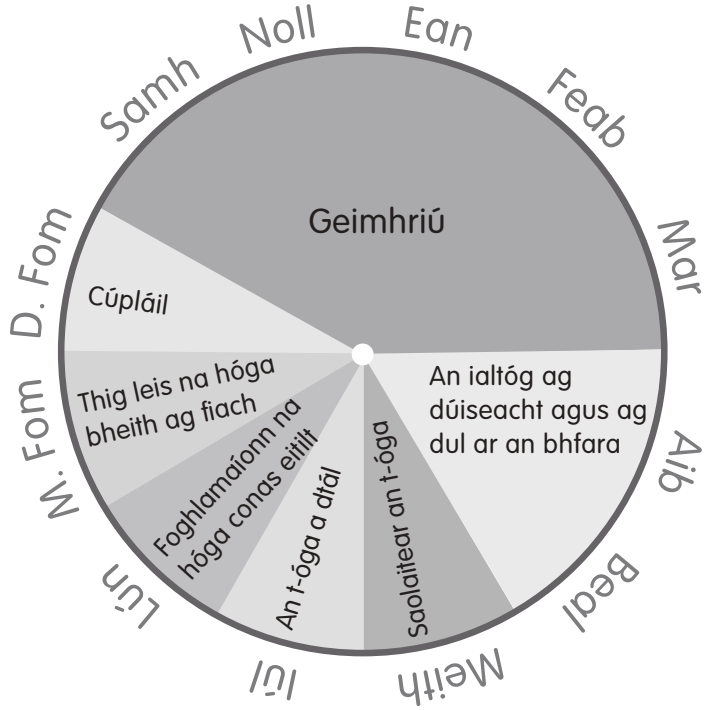
Bia agus Saolré

Is feoiliteoirí iad na hialtóga. Sa samhradh eitlíonn siad i rith na hoíche agus cothaíonn said iad féin le feithidí a bhíonn ag eitilt san aer. Cuir tic leis na cinn seo a leanas a bhíonn á n-ithe ag ialtóga:



- ☐ Cláirsigh
- ☐ Corrmhíolta
- ☐ Péisteanna
- ☐ Féileacháin Oíche
- ☐ Míoltóg
- ☐ Drúchtíní
- ☐ Beacha
- ☐ Cuileanna Bealtaine
- ☐ Luchóga
- ☐ Galáin

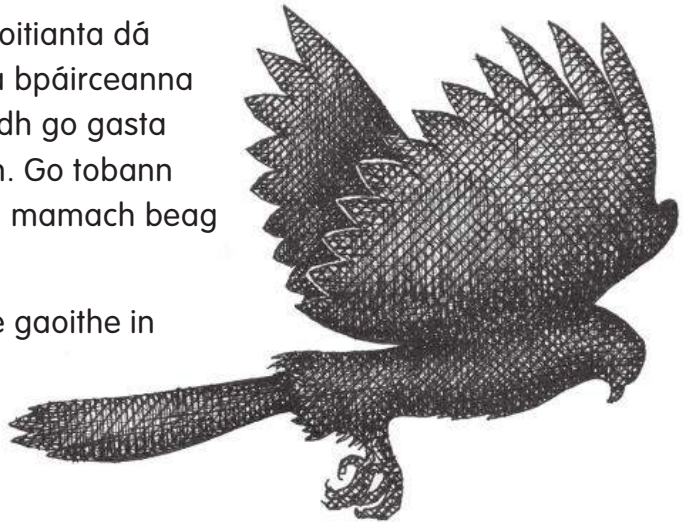
Seo léaráid de shaolré ialtóige.



LE DÉANAMH:

Scríobh alt faoi bhliain i saol ialtóige, ag baint úsáide as an léaráid seo lena chinntiú go bhfuil do chuid pointí go beacht.

Déan taighde



Is é an Pocaire Gaoithe an t-éan creiche is coitianta dá bhfuil againn. Bíonn sé ag ainliú os cionn na bpáirceanna agus na bhfálta, a chuid sciathán á mbualadh go gasta aige le go bhfanfaidh sé san aon áit amháin. Go tobann ansin, tuirlingíonn sé anuas ar a chreich, sin mamach beag a bhíonn ar an talamh, de ghnáth.

Táthar ar an eolas go ndéanfadh an pocaire gaoithe in Éirinn creach ar na mamaigh bheaga seo a leanas:An luch fhéir, an luch thí, an francach, an dallóg fhraoigh, an dallóg bhánfhiaclach agus an vól bruaigh.

Fiosraigh gach ceann acu siúd agus faigh amach cé chomh coitianta agus cé chomh fairsing is atá siad go léir.

An Luch Fhéir _____

An Luch Thí _____

An Francach _____

An Dallóg Fhraoigh _____

An Dallóg Bhánfhiaclach _____

An Vól Bruaigh _____

Cé acu thuas atá díobhálach, dar le daoine? _____

_____

An ábhar tairbhe do dhaoine é an Pocaire Gaoithe? _____

Ainmnigh cúig éin chreiche eile in Éirinn.

_____ _____

_____ _____ _____

FAIGH AMACH cad iad na trí speiceas eile d'éin chreiche a bhí ina n-éin dhúchasa anseo fadó agus a tógadh isteach sa tír an athuair taobh istigh de na deich mbliana a chuaigh thart.

_____ _____ _____

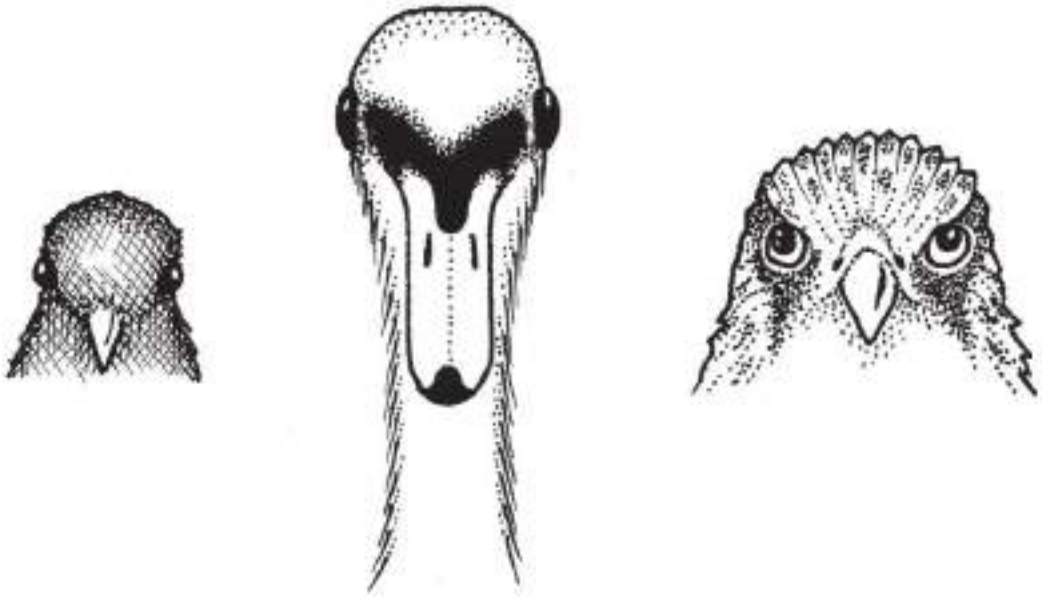
Cén fáth gur smaoineamh maith é iad a thógáil isteach an athuair? _____

_____

_____

Turgnamh

Cad is cúis leis an radharc maith a bhíonn ag an pocaire gaoithe? Níl sé cosúil leis an eala ná leis an lon dubh toisc go bhfuil **radharc déshúileach** aige.



Bíonn radharc difriúil as an dá shúil ag éin amhail an eala agus an lon dubh. Is féidir leat sin a thástail trí mhéar amháin a ardú agus féachaint uirthi le súil amháin ag am amháin. Tá seo go breá i gcás formhór rudaí, ach nuair is gá duit léim ar rud agus breith air caithfidh tú bheith díreach ar an eolas faoi cá bhfuil an rud. Ní mór duit mar sin díriú air le do dhá shúil le chéile – rud a chiallaíonn go n-úsáideann tú radharc dhéshúileach.

Cuir do mhéar ar an líne le líne a tharraingeoidh do mhúinteoir ar an gclár dubh. Ní féidir leat sin a dhéanamh ach le súil amháin ag an am. Agus do dhá shuil á n-úsaid le chéile agat is féidir leat díriú ar do mhéar nó ar an líne ar an gclár dubh – ní féidir leat díriú ar an dá rud le chéile ag an am céanna.

Amhail gach éan creiche agus na hullchabháin, úsáideann an pocaire gaoithe a dhá shúil le chéile agus tá sé an-mhaith chun breith ar chreach a bhíonn ag bogadh go gasta.

Úsáideann an eala a dhá shúil neamhspleách ar a chéile ag an am céanna. Tugann sé seo buntáiste di atá fíor-thábhachtach. An féidir leat an buntáiste sin a oibriú amach?

_____

_____

_____

_____

_____

_____

Turgnamh

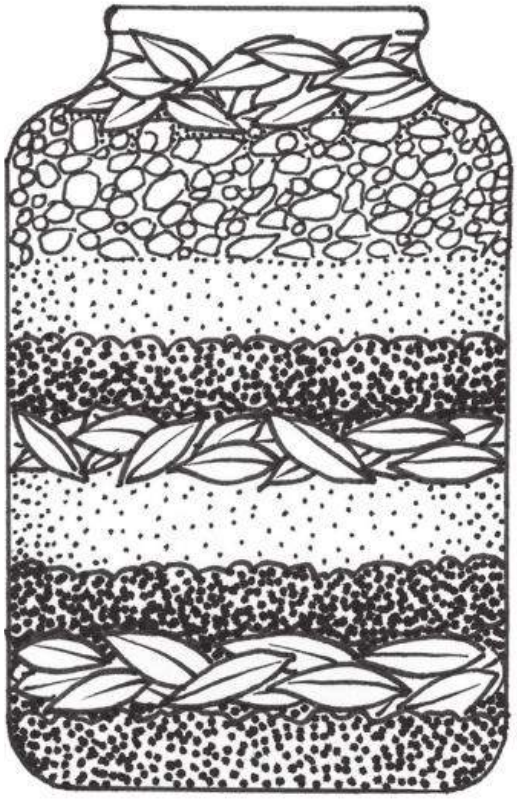
Is dianscaoilteoir í an Phéist Talún. Cothaíonn sí í féin le hábhar plandaí marbh agus briseann sí síos é ina chothaitheacha a dtiocfadh le plandaí eile a úsáid le haghaidh fáis. Faightear na péisteann talún de ghnáth sa chré.

Is féidir leat fáil amach conas a bhriseann siad síos duilleoga agus conas a dhéanann siad tolláin trí bhreathnú ar phiastlann.

Na rudaí a bheidh da dhith ort

1. Próca mór gloine no plaistigh amhail ceann ina mbíonn milseáin

2. Sraitheanna duilleog, cré, gaineamh agus cailc.



Má chuireann tú péisteanna talún isteach i bpróca agus má chlúdaíonn tú an próca le mála dubh plaisteach, leanfaidh na péisteanna ar aghaidh ag obair leo sa dorchadas ag measc adh na sraitheanna agus ag ithe na nduilleog. Coinnigh an chré beagán tais agus oscail an mala dubh gach re lá le go bhfeicfidh tú cad é atá ar siúl. Má fhágann tú an mála ar lár ní fheicfidh tú aon rud mar coinníonn na péisteanna talún amuigh ón solas.

Conas breith ar phéisteanna talún le hiad a chur sa phróca

Caithfidh tú na péisteanna talún a mhealladh chun teacht go dtí dromchla na cré.

Bígí ag obair i ngrúpaí de cheathrar. Beidh buidéal uisce 5 l (nó dhá bhuidéal níos lú ná sin) agus bosca folamh de dhíth ort chun na péisteanna talún a chur ann.

Téigh amach agus roghnaigh píosa de thalamh féaraigh den tomhas méadar faoi mhéadar.

Déan é a uisciú go maith leis an uisce ar fad. Ansin tosaigh leat ag greadadh cosa – go cúramach – ar an talamh a rinne tú a uisciú. Ceapfaidh na péisteanna talún thíos faoi bhun go bhfuil sé ag cur fearthainne agus tosóidh siad ag teacht aníos chuig an dromchla. Seans go dtógfaidh sé cúig nóiméad nó mar sin orthu sin a dhéanamh, ach coinnigh ort.

Beir na péisteanna ar ais go dtí an phiastlann agus cuir isteach ansin iad.

Déan Sainaithint

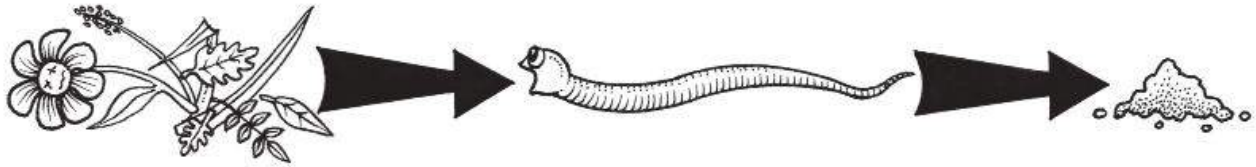
Itheann péisteanna ábhar plandaí marbh agus déanann siad cothaitheacha cré de. Oibríonn siad go han-mhaith in araidí múirín.

Cad is brí le haraid muirín? _____

An bhfuil ceann acu ag do scoil-se? _____

An bhfuil ceann agat sa bhaile? _____

Cad a chuirtear isteach san araid muirín? _____



Téigh amach agus féach isteach san araid muirín. Bailigh cuid de na péisteanna a fheiceann tú san araid agus beir leat ar ais go dtí an rang iad.

Scrúdaigh iad go cúramach.

An bhfuil siad go léir mar an gcéanna? _____

An bhfuil siad cosúil leis na péisteanna talún sa chré? _____

An bhfuil siad níos raimhre ná níos tanaí ná péisteanna talún? _____

An bhfuil dath dearg orthu i ngach áit agus an lúbann siad go tréan i do lámh? _____

Más ea, is PÉISTEANNA RUA LÁIMHÍNEACHA iad.

An bhfuil siad stríocach – le stríocaí ciorclacha dearga agus bándearga orthu? ____

Más ea, is PÉISTEANNA TIOGAIR nó BRANDLING iad atá an-choitianta in araidí muirín.

AN RAIBH A FHIOS AGAT?

Ní chuireann solas dearg isteach ar phéisteanna san oíche, mar sin, má chuireann tú páipéar dearg ceallafáin ar thóirse aimseoidh tú mórán péisteanna sa ghairdín i rith na hoíche.

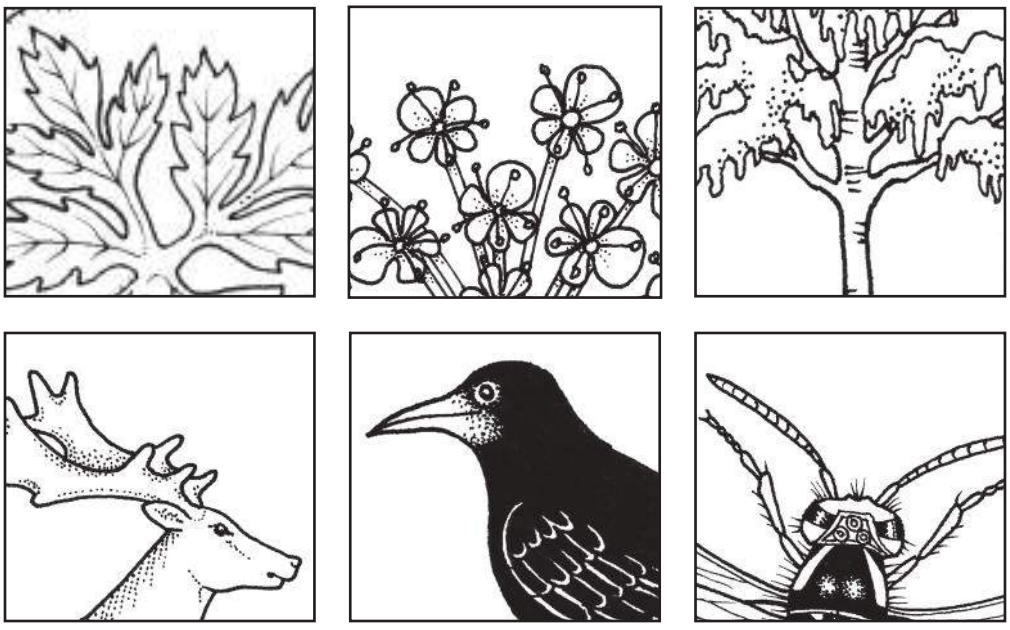
Introduction to 6th Class Worksheets

Ruitheal Rí	**Herb Robert**
Peirsil Bhó	**Cow Parsley**
Beith gheal	**Birch**
Fia rua	**Deer**
Préachán	**Crows**
Foiche	**Wasp**

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species. The worksheets, which need not necessarily be done in the order in which they are given, are designed to be photocopied and handed out to the pupils.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly and return any animals collected to the wild.

There is also an emphasis on children finding information out for themselves by use of books and by using the internet. By sixth class, pupils should be encouraged to do research and to use the results to take points of view on environmental issues.



6th Class Teacher Notes

Herb Robert 1
Worksheet

Introduction to plant
This sections requires that the pupils examine the drawing in detail and understand the vocabulary used on the worksheet They should understand petal, sepal, alternate, opposite, seed and canopy.

Herb Robert 2
Fieldtrip (do this in May)

Ability to find plants
The plant grows in a hedge or woodland edge and flowers in May.

Making a model hedge
This involves making a miniature hedge with the four layers in a box, in class. This can be done by several groups in the class. Each of the four layers of the hedge are collected and placed in the box in the right position.

Cow Parsley 1
(Flowers are in bloom in late May/June)
Worksheet

Introduction to plant
Examination of the drawing and being shown the picture will introduce the pupils to cow parsley. Finding it in a nearby hedge and bringing it back to attempt an accurate drawing increases the familiarity with the plant.

Cow Parsley 2
Fieldtrip

Hunt for insects
Associated with the nectar-filled flowers, this exercise is conducted by using a strong net to sweep a stand of flowers. This should dislodge any insects which can then be examined closely. A warm sunny day is best for this exercise.

Birch 1
Worksheet

Study of tree
Because birch trees are so commonly planted, it should be relatively easy to visit one on a regular basis to find invertebrates. Leaves, bark and around the base of the tree should all be examined.

Birch 2
Worksheet

Key construction
This involves a series of questions to distinguish the individual leaves. It could begin:

1. Leaves compound: go to 2
Leaves simple: go to 4

2. Leaflets attached radially to stem:
Horsechestnut

Leaflets in opposite pairs with one terminal leaflet: go to 3

And so on. There is no right way – the fewer the steps, the more elegant the solution but as long as the key works it is fine.

Deer 1
Worksheet

Food chains
It will soon be apparent in discussion with the class that deer have no natural predators in Ireland.

Importance of top carnivores
Teacher should instigate a debate on the importance of top carnivores and how populations with no top carnivores increase in numbers as long as there is food available. This may mean destroying young forests by eating young germinating trees, or destroying crops on farmland or becoming a nuisance to traffic in parks.

Control of hunting
Hunting deer with guns for sport means removing the very best specimens for trophies whereas natural hunting by wolves would remove the weakest, most easily caught specimens. So culling by controlled removal must mean the removal of the weakest animals to keep the health of the herd up.

Introduced species
This can upset the ecological balance. Muntjac deer, for instance, which have no natural predators in Ireland, will further damage the woodlands where they have been introduced.

Food Chain Game

Revision worksheet in two sections

Revision
This is a revision exercise of the species learned in Primary School. Pupils must know enough about these species to understand their requirements for growth and nutrition.

Food web
By using a ball of string to link each "species" to its food and its prey, a food web can be created. It is then easy to demonstrate the effect on a food web of the loss of even one species. Decide on one species to eliminate and that person lets go all the strings they are holding. See how quickly the web unravels.

Crows 1

Worksheet in two sections

Observation skills
This worksheet requires pupils to look closely at the crows in the school grounds and to realise that there are two different species – a rook and a jackdaw – so this exercise sharpens their observational skills.

Nests
Magpies have solitary nests of sticks high in trees in suburban areas. Rooks nest in colonies on the tops of adjoining trees. Jackdaws nest in chimneys, church steeples and old castles.

Crows 2

Worksheet in three sections

Research skills
Pupils should be able to find out about Ravens, Hooded Crows, Jays and Choughs.

Food
Crows eat a wide variety of food and these lead to the abundance of the species.

Scientific survey
Draw a map of the area surveyed and mark in the positions of the Rook and the Magpie nests. Rookeries will be separate from each other but there may be individual Magpie nests relatively close in areas where there is good feeding available. It is the availability of food and nesting sites that controls the populations of Rooks and Magpies.

Wasps 1

Worksheet in two sections

Identification
Wasps and honey bees are of a similar size but honey bees are hairy with indefinite stripes while wasps are shiny and very definitely striped. Bumble bees are much bigger and hairier.

Mimicry
There are several other non-stinging insects which carry the black and yellow warning colours of bees and wasps. This mimicry has meant that they have evaded being eaten so those that look most like bees most successfully evade capture by birds and leave most offspring. They evolve, therefore, to look more closely like bees and wasps.

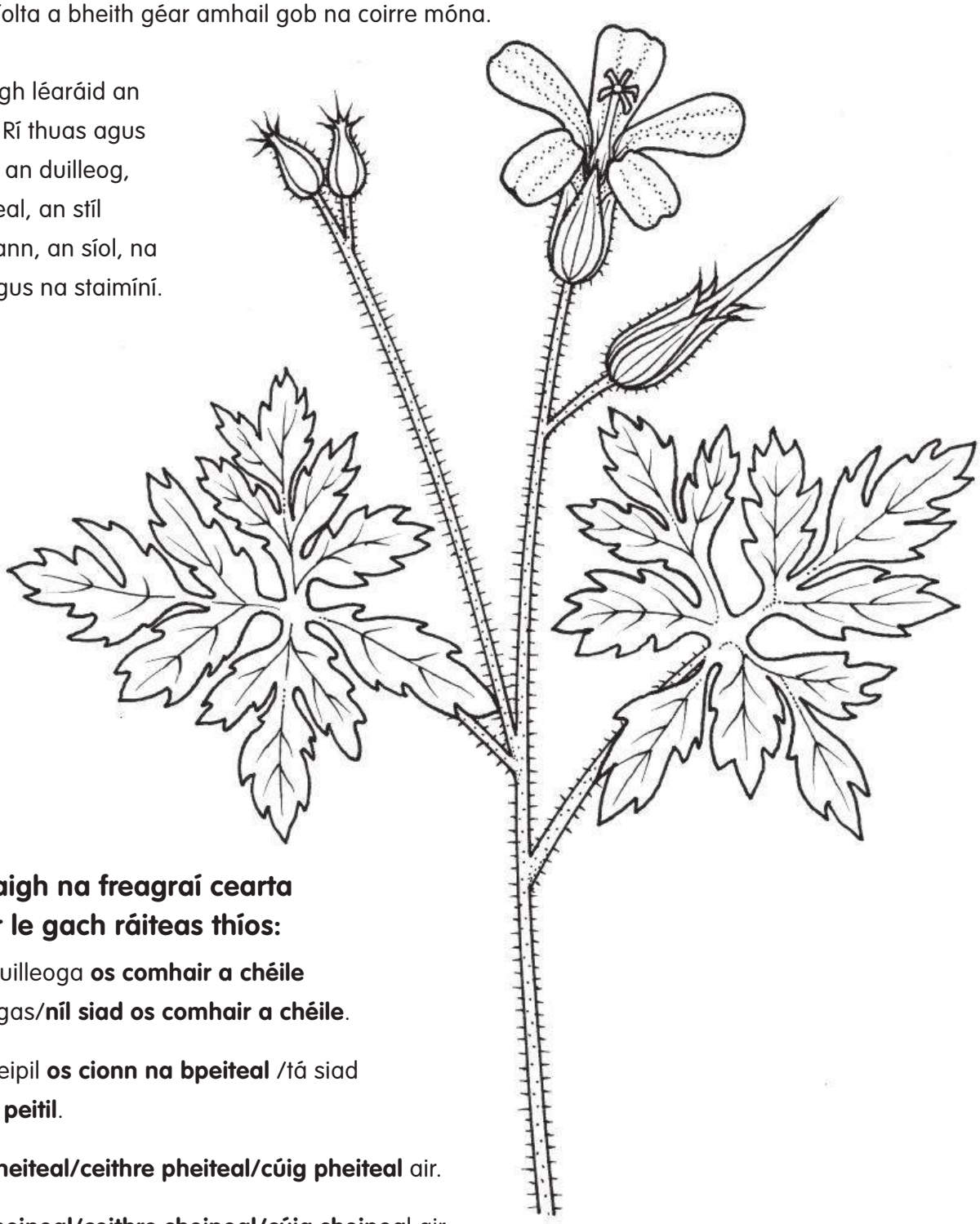
Wasps 2

Debate
There is a learned response among children that wasps are hateful, nasty things which are out to sting us. This exercise in looking at how wasps live and should make them realise the important role played by wasps in keeping down crop pests such as aphids and greenflies. Neither bees nor wasps are "better" than one another – they are both very important parts of biodiversity.

An Ruithéal Rí 1

Is planda a fhásann sa choill agus san fhál é an Ruithéal Rí agus bíonn sé faoi bhláth san earrach. Is ball d'fhine an chroibh dheirg é agus tugtar an t-ainm sin ar an bhfine sin mar gheall ar chruth a gcuid síolta a bheith géar amhail gob na coirre móna.

Scrúdaigh léaráid an Ruithéil Rí thuas agus marcáil an duilleog, an peiteal, an stíl bhaineann, an síol, na seipil agus na staimíní.



Ciorclaigh na freagraí cearta maidir le gach ráiteas thíos:

Tá na duilleoga **os comhair a chéile** ar an ngas/**níl siad os comhair a chéile**.

Tá na seipil **os cionn na bpeiteal** /tá siad **faoi na peitil**.

Tá **trí pheiteal/ceithre pheiteal/cúig pheiteal** air.

Tá **trí sheipeal/ceithre sheipeal/cúig sheipea**l air.

Titeann na seipil/fanann siad nuair a dhéantar na síolta.

San fhál bíonn an Ruithéal Rí mar chuid den **tsraith thalún**/de **shraith na dtor** /den t**sraith chrannbhrait.**

FAIGH AN tEOLAS:

Cén dath atá ar pheitil an Ruithéil Rí? _____

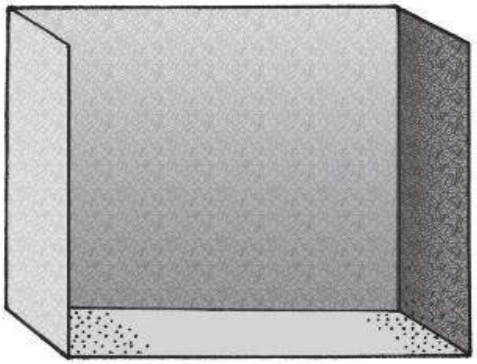
Conas fál a dhéanamh

Is planda é an Ruithéal Rí a fhásann san fhál/sa choill agus a bhíonn faoi bhláth i mí Aibreáin

Aimsigh ceann atá ag fás i bhfál gar do do scoil.

Bolaigh an bláth – tagann boladh géar uaidh amhail boladh an tsionnaigh. Tá blas bréan air chomh maith agus ní itheann drúchtíní, cláirseacha ná seilidí riamh é.

Tar éis duit turas allamuigh a dhéanamh chuig fál i mbliana, féadfaidh tú fál bréagach a thógail sa seomra ranga, fál a mbeidh ceithre shraith ann.



Beidh na nithe seo de dhíth ort: bosca mór ar aon chruth agus ar aon tomhas le bosca mór do chalóga arbhair. Gearr amach aon taobh mór amháin in éineacht leis an mbun. Cuir ina sheasamh go ceartingearach é ar a bharr, de réir mar a leirítear anseo.

Seo an áit ina dtógfaidh tú an fál. B'fhéidir gur mhaith leat an bosca a chlúdach agus an dath glas a chur air le péint. Beidh sraith na dramhaíola i mbun an bhosca. Is anseo a bheidh an caonach agus na duilleoga feoite.

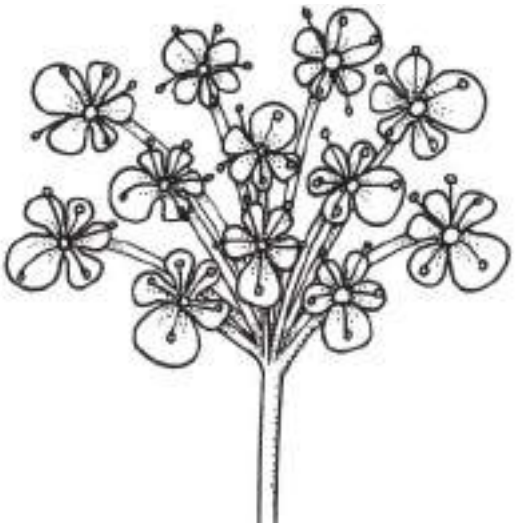
Anuas uirthi seo beidh sraith na talún, áit a mbeidh na bláthanna ag fás. Don tsraith seo bailigh roinnt Ruithéal Rí agus roinnt bláthanna eile ón bhfál.

Nuair a bheidh sraith na dtor agus sraith chrannbhrat na gcrann ard déanta agat beidh d'fhál bréagach críochnaithe.

Féadfaidh tú na hábhair a bhailiú ar an turas allamuigh seo agus an fál bréagach iomlán a chur le chéile sa seomra ranga.

TURAS ALLAMUIGH

Faightear an Pheirsil Bhó go coitianta i mí na Bealtaine agus i mí an Mheithimh. Fásann sí ar na fálta cois bóthair agus ar na fálta sna páirceanna. Is leis an bhfine blátha a ngairtear *umbelliferae* uirthi í toisc go mbíonn barr an bhlátha cosúil le scáth fearthainne.



Scrúdaigh an léaraid.

Cé mhéad peiteal atá ar gach bláth? _____

An ionann tomhas peitil amháin agus tomhas peitil eile? Déan cur sios orthu anseo.

_____

_____

_____

TURAS ALLAMUIGH

Téigh amach agus faigh sampla den Pheirsil Bhó. Beir leat ar ais go dtí an seomra ranga é agus tarraing do léaraid féin anseo. Breac imlíne duilleoige iomláin ar an leathanach seo.

Déan cur síos ar bholadh na mbláthanna. _____

Féach ar an ngas agus déan cur síos air. An bhfuil sé cuasach nó an bhfuil sé soladach?

_____

Cuir an bláth sa tsraith talún den fhál atá á dhéanamh agat sa bhosca.

Turas allamuigh le haghaidh breathnaithe ar an bhfiadhdhúlra

Faightear an Pheirsil Bhó go coitianta sna fálta agus mealann sí an fiadhúlra toisc go mbíonn go leor neachtair i ngach aon bhláth aonair.

Faigh seastán de Pheirsil Bhó.

1. Bí ag breathnú ar an seastán de Pheirsil Bhó agus tabhair faoi deara na feithidí a eitlíonn isteach ann ag lorg neachtair.

_____

_____

_____

2. Scuab na bláthanna le heangach agus ansin dean í a fholmhú isteach i scáth fearthainne oscailte ionas go bhfeicfidh tú cad a bhí san eangach.

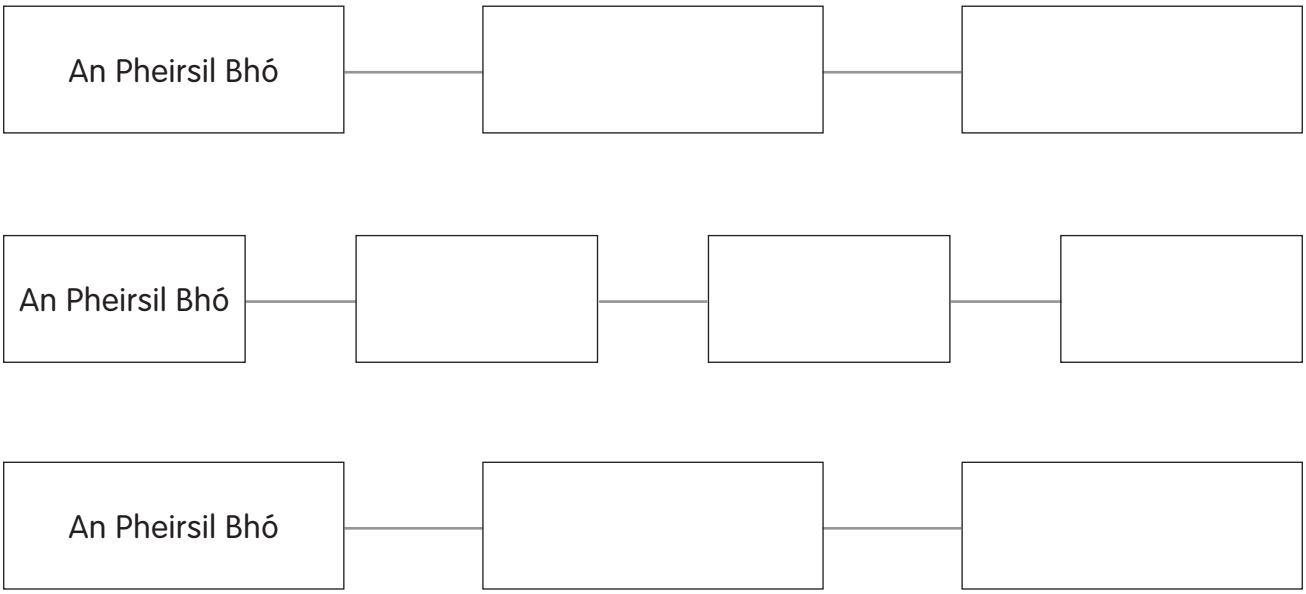
_____

_____

_____

3. Féach sna gais fheoite sa gheimhreadh le go n-aimseoidh tú gailseacha ag geimhriú.

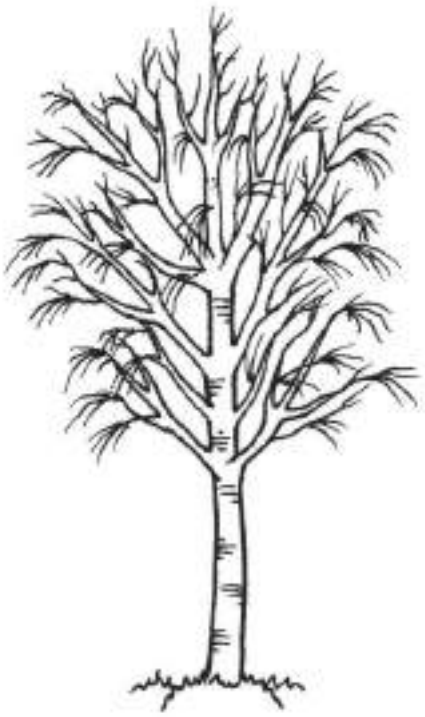
4. Bain úsáid as do chuid torthaí chun slabhraí bia a dhéanamh agus bíodh an Pheirsil Bhó ag an mbun.

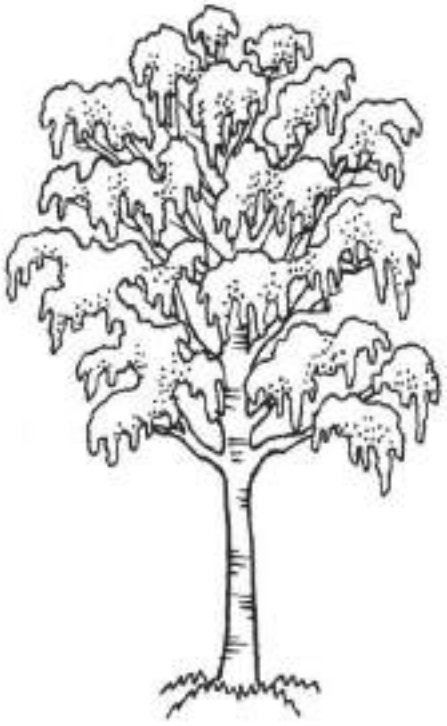


Staidéar Chrann

Cuirtear an Bheith Gheal go fairsing i mbailte móra, i bpáirceanna poiblí agus in áitribh scoile.

Cá bhfuil an ceann is gaire do do scoilse? _____





Faigh an crann beithe is gaire duit agus déan staidéar air le linn na scoilbhliana, ag tosú i mí Mheán Fómhair. Is breá leis an fhiadhúlra an crann beithe go háirithe agus bíonn baint ag 229 speiceas d'fheithidí leis an gcrann seo.

Tabhair cuairt ar do chrann gach coicís agus coinnigh dialann ar pé fiadhúlra a aimsíonn tú. Croith na duilleoga, breathnaigh ar na scoilteanna sa choirt agus cuardaigh bun an chrainn. Bí ag breathnú amach fá choinne feithidí ag eitilt.

Dialann ar an scrúdú a rinne tú ar an an gcrann Beithe

	Dáta	Staid na nduilleog	Feithidí srl. a fuarthas
Meán Fómhair Coicís 1			
Meán Fómhair Coicís 2			
Deireadh Fómhair Coicís 1			

Agus mar sin de go dtí mí an Mheithimh.

Tabhair faoi deara na hathruithe sna duilleoga: i staid na coirte, sna bachlóga, sna caitíní, sna síolta srl. Coinnigh cuntas ar líon agus ar chineál na feithidí a aimsíodh.

Eochair plandaí

Faoin am seo beidh eolas faighte agat ar scoil ar thart ar ocht gcineál crann.

Seo léaráidí de na duilleoga difriúla go léir a chuirfidh na crainn i gcuimhne duit.

Ainmnigh gach duilleog. Déan eochair den ocht nduilleog.

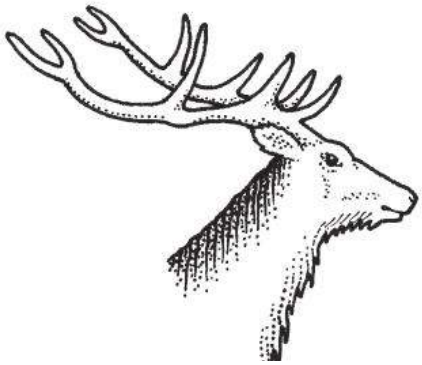
Leideanna chun cuidiú leat: duilleoga comhdhúileacha , duilleoga simplí, líon na nduilleoigíní, imeall na nduilleog (deilgneach, corrach, fiaclach, gearrtha go domhain) agus cruth na nduilleog (biorach, comhchruinn).

Féadfar an rang a roinnt ina ghrúpaí de cheathrar nó de chúigear agus déanfaidh gach grúpa a eochair féin. Ní gá go mbeidh gach eochair mar an gcéanna a fhad is a n-oibríonn siad go léir. Féadfaidh tú d'eochair féin a thástáil ar ghrúpa eile.

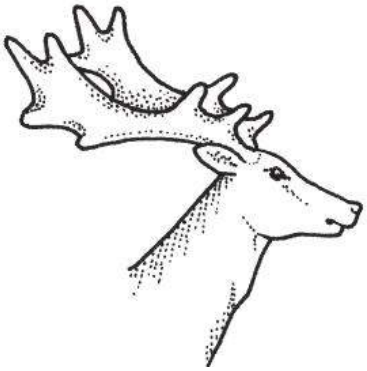
Is iad na heochracha is fearr na cinn lena n-aithnítear na duilleoga le líon beag céimeanna. Bheadh 6 cheím i gceist le gnáth-eochair.

M'Eochair Phlanda

Is luibhiteoir é an fia agus itheann sé féar, duilleoga, crainn óga agus coirt na gcrann aibí. Faightear trí speiceas den fhia in Éirinn.



An Fia Rua



An Fia buí

An Fia Seapánach

Déan dhá shlabhra bia a mbeidh an fia iontu.

	Fia	

	Fia	

Cad iad na feoiliteoirí a itheann fianna in Éirinn mar bhia? _____

Is iteoir fia é an mactíre ach ón ochtú haois déag ar aghaidh chuaigh an mac tíre in éag.

Cad a tharla toisc nach raibh ainmhithe creiche nádurtha ann chun an fia a ithe?

_____

Cad a choinníonn smacht ar an daonra fianna in Éirinn? _____

Cén tionchar ar na comhshaoil seo a leanas a bhíonn ag easpa smachta ar líon na bhfianna:

Coillte darach dúchasacha? _____

Talamh ard feirmeoireachta atá gar do thailte an fhia? _____

Fialanna? _____

Díospóireacht

Is gá mar sin an fia a bhainistiú in Éirinn. Ach conas?

An bhfuil fiach go maith chun smacht a choinneáil ar líon na bhfhianna? _____

Cad iad na beartais eile a bheadh níos éifeachtaí agus níos coimeádaí ná fiach chun smacht a choinneáil orthu? _____

Tuairiscíodh le déanaí gur tugadh an ceathrú speiceas d'fhia – an Fia Muntjac – isteach to hÉirinn . An bhfuil sin go maith nó go holc? _____ Cén fáth? _____

_____

Cluiche Bia Slabhra

Roghnaíonn gach dalta sa rang ceann amháin de na speicis seo a leanas agus scríobhann sé nó sí a ainm (a hainm)i litreacha móra ar phíosa páipéir. Glacann sibh babhtaí chun na speicis a roghnú agus déanann sibh cinnte de go roghnaítear cuid as gach grúpa.

PLANDAÍ	LUIBHITEOIRÍ	FEOILITEOIRÍ	UILITEOIRÍ	DIANSCAOILTEOIRÍ
Cam an Ime	Fia	Bóín Dé	Spideog	Péist Talún
Neantóg	Colm Coille	Gráinneog	Sionnach	Cláirseach
Sceach Gheal	Beach	Foiche	Broc	
Dair	Coinín	Pocaire Gaoithe	Lon dubh	
Coll	Eala	Frog	Cág	
Sabhaircín	Iora Rua	Corr Réisc	Snag Breac	
Peirsil Bhó	Seilide	Damhán Alla		
Trom	Féileachán	Ialtóg		

Greamaítear ainm amháin ar dhroim gach aon dalta sa tslí nach bhfeicfidh sé nó sí an t-ainm.

Roinntear an rang ina mbeirteanna. Is féidir le gach éinne de na beirteanna sin pé ainm atá ar an duine eile a fheiceáil ach ní fheiceann siad a n-ainmneacha féin.

Chun fáil amach cad atá ar a dhroim/ar a droim féin, féadfaidh gach dalta ceist a chur ar a pháirtí faoi. Ní cheadaítear ach ceisteanna a mbeidh 'Is ea' / 'Ní hea' 'Tá / Níl' mar fhreagra orthu. Leantar ar aghaidh leis na ceisteanna go dtí go bhfaightear 'Ní hea / Níl' mar fhreagra ar cheann acu agus is ansin a thosaíonn babhta an duine eile.

Sampla

Cuireann an duine (atá ag caitheamh an ainm 'Bóin Dé')' an cheist seo:

An ainmhí é? Is ea. An feoiliteoir é? Is ea. An bhfuil sciatháin air? Tá. An éan é? Ní éan é/Ní hea.

Cuireann an duine eile (atá ag caitheamh an ainm 'Neantóga') an cheist seo:

An planda é? Is planda é/Is ea. An bhfuil bláthanna air? Tá. An bhfuil dath buí ar na bláthanna? Níl.

Babhta an chéad duine arís.

Féadfaidh sibh go léir seasamh i slabhraí bia nuair a bheidh a fhios ag gach duine agaibh cad atá ar dhroim gach duine eile.

Déan Sainaithint Ar

Fine d'éin a bhfuil seacht speiceas díobh in Éirinn is ea na préacháin. Is iad na speicis is coitianta an Rúcach (An Préachán Dubh), an Cág agus an Snag Breac.

Snag Breac

Cág

Rúcach (Préachán Dubh)

Féach go cúramach ar na learáidí thuas.

Cé acu a bhfuil an t-eireaball is faide air? _____

Cé acu a bhfuil an gob is tiubhe air? _____

Cé acu an t-éan is lú? _____

Cé acu a bhfuil na dathanna dubh agus bán air? _____

Cé acu a bhíonn i gclós na scoile? _____

Turas Allamuigh chun na hÉin seo a fheiceáil. (Déan an turas seo i mí Mheán Fómhair agus arís i mí na Bealtaine).

Caith cúig nóiméad déag i gclós na scoile ag lorg na n-éan.

Cén speiceas is fusa a fheiceáil? _____

Cé acu an ceann is coitianta? _____

Cén speiceas a a bhí ag siúl i bpáirc na scoile? _____

An raibh siad in éineacht lena gcineál féin nó an raibh grúpaí measctha ann?

_____

Cé acu de na speicis a ndeachaigh le chéile? _____

Cé mhéad de gach ceann a bhí ann? _____

FAIGH AN t-EOLAS:

Cá háit a neadaíonn an Sneag Breac? _____

Cá háit a neadaíonn an Cág? _____

Préachán Dubh? _____

Faigh an tEolas

Tá seacht speiceas difriúil den phréachán in Éirinn. Tá trí cinn ar eolas agat cheana féin. Faigh amach cad iad na ceithre cinn eile:

1. _____ 2. _____ 3. _____ 4. _____

Is uiliteoir é an préachán.

Mar luibhiteoir itheann sé _____ .

Mar fheoiliteoir maraíonn sé agus itheann sé _____ .

Is glantóir é chomh maith agus itheann sé rudaí a bhíonn marbh cheana féin: _____

_____ .

Mar gheall ar na bealaí cothaithe difriúla seo a bheith aige bíonn sé ar chumas an phréacháin rud éigin le hithe a fháil i gcónaí agus mar sin éiríonn go geal leis an éan seo.

Ag iarraidh teacht ar neadacha

San earrach déanann dhá chineál préacháin, an Préachán Dubh agus an Snag Breac, neadacha feiceálacha dóibh féin.

Déan suirbhéireacht i do cheantar i mí an Mhárta, roimh theacht na nduilleog ar na crainn agus déan comhaireamh ar líon na neadacha a aimsíonn tú.

Nead an Phréacháin Dhuibh _____

Nead an Snaga Bhric _____

Suirbhé

Cén cineál éin den dá chineál thuas a bhfuil an líon is mó neadacha tógtha aige?

_____

Cén speiceas a neadaíonn i gcóilíneacht neadacha? _____

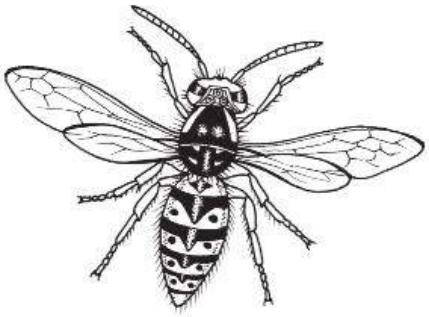
Cad iad na buntáistí a bhaineann leis an gcóras seo? _____

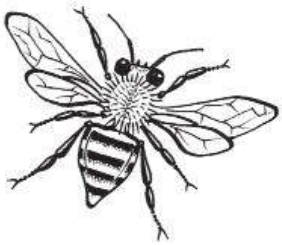
Cén t-éan a neadaíonn ina aonar? _____

Cad iad na buntáistí a bhaineann leis seo? _____

Déan Sainaithint Ar

Caitheann an fhoiche an samhradh ar fad ag bailiú an trí chineál cuileoige seo a leanas chun na foichí óga a chothú:- an chuileog ghlas, an chuileog dhubh agus an chuileog bhán.





Tá léaráidí den fhoiche, den bhumbóg agus den bheach mheala thuas.
An féidir leat iad a ainmniú?

Tá an corp is ramhra ag an _____ .

Tá _____ sciathán ar gach ceann acu. (Cé mhéad?)

Níl básta ar bith ag an _____.

Tá an dath buí agus an dath dubh ar shúile an _____.

Tá an dá chineál _____ giobach.

Tá corp lonrach ag an _____.

Tá stríoc chothrománach ar thóracs (an chuid lárnach dá chorp) an _____.

Tá stríoca móra suas-síos ar chorp an _____.

Cuir lipéad ar gach ceann den trí lipéad thuas.

AITHRISEOIREACHT

Ní itheann na héin feithidí a bhfuil stríoca buí agus dubha orthu. Tarlaíonn sin toisc go gceapann na héin go mbíonn cealg ag gach feithid ach i ndáirire is ag an bhfoiche agus ag an mbeach a bhíonn cealga agus acu siúd amháin. Bíonn cuma na foiche ar fheithidí eile agus is ar an ábhar sin nach n-itear iad. Aithriseoireacht a thugtar air seo.

Faigh pictiúir de na feithidí seo a leanas: An Bheach Ghabhair, An Sábhchuil,
An Conach Beach.

Cé acu an t-aithriseoir is fearr? _____

Díospóireacht

Tá foichí agus beacha an-tábhachtach. Ní fhéadfadh an saol seo ar domhain leanúint ar aghaidh gan iad a bheith ann.

Beidh díospóireacht ag do rangsa faoi cé chomh tábhachtach is atá beacha agus foichí. Roinnfear é ina dhá ghrúpa – ceann amháin le haghaidh beach agus ceann eile le haghaidh foichí. Beidh trí urlabhraí ann do gach taobh den díospóireacht. Cuideoidh an dá leath lena gcuid urlabhraithe féin tríd an fhaisnéis a aimsiú dóibh chun go mbeidh an t-eolas acu le labhairt faoin mbeach agus faoin bhfoiche. Ag déanamh taighde a thugtar air seo. Roinnfear an obair ionas go bhfaighidh gach duine eolas nua.

Beacha	Foichí
Cé mhéid beach a bhíonn i gcóilíneacht?	Ce mhéid foichí a bhíonn i gcóilíneacht?
Cad é an bia a itheann beacha?	Cad é an bia a itheann foichí?
Cén cothú a thugtar do na beacha óga?	Cén cothú a thugtar do na foichí óga?
Cad a tharlaíonn mar thoradh ar na beacha a bheith ag lorg bia ar na bláthanna?	Cad a tharlaíonn mar thoradh ar na foichí a bheith ag bailiú bia ó na plandaí sa gháirdín?
Cad iad na barraí a bhíonn ag brath ar bheacha?	Cad iad ba barraí a bhaineann tairbhe as beacha ag bailiú bia?
Cén fáth a mbíonn cealga ag beacha?	Cén fáth a mbíonn cealga ag foichí?
An mbíonn cealg ag gach beach?	An mbíonn cealg ag gach foiche?
Cén fáth a ndéanann beacha saithe?	Cén fáth nach ndéanann foichí saithe?
Cén saghas domhain a bheadh ann gan aon bheacha ann?	Cén saghas domhain a bheadh ann gan aon fhoichí ann?

Glacfaidh na cainteoirí babhtaí chun rudaí maithe a rá faoi bheacha agus faoi fhoichí agus déanfaidh siad iarracht a chruthú cé acu díobh is tábhachtaí, na beacha ná na foichí. Is féidir cuireadh a thabhairt do rang eile teacht chun éisteacht leis an díospóireacht.

About the Author

Éanna Ní Lamhna

Éanna Ní Lamhna is best known for her environmental expertise as a broadcaster on the radio programme *Mooney Goes Wild*. Her Co. Louth accent gives her one of the most instantly recognisable voices on radio. Her ability to bring her subject to life is legendary and her no-nonsense approach to romantic views about wildlife is well known.

She is first and foremost a botanist with degrees in both botany and ecology from University College Dublin. Her interest in the environment has expanded with her work over the years, to include birds, mammals and in particular creepy-crawlies whose doings hold a particular fascination for her. Her ability to awaken enthusiasm for these creatures in her listeners is exemplified by the remark made to her lately, "Whenever I see a spider I always think of you and put it outside instead of stamping on it."

She began work in 1974 in the Biological Records Centre — in its first incarnation in An Foras Forbartha. She quickly realised that if she was to receive any biological records from the Irish public she would first have to go and teach them about Irish wildlife. So began a career of teachers' courses, radio programmes, lecturing at third level, field trips with Secondary School pupils and most significantly of all, visits to Primary Schools to teach the pupils and indeed the teachers there, about the wildlife around them.

Her publications include *Talking Wild, Wild and Wonderful*, *Straight Talking Wild* and *Wild Dublin*. She has just completed a five-year term of office as President of An Taisce and is currently the Vice-President of the Tree Council of Ireland.

About the Illustrator

Christine Warner

Christine Warner is an illustrator and calligrapher working mostly in the field of education. She provides full colour illustrations, line diagrams and cartoons for textbooks, workbooks and posters. She has worked for many educational publishers and also for Dúchas, Forfás and Trócaire.

While she illustrates material on a wide variety of subjects, she specialises in science, having science degrees from University College Dublin and Trinity College Dublin. She particularly enjoys producing wildlife illustrations and cartoons. She has been an environmental activist for many years. Christine may be contacted via email at cwarner1@gmail.com

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